DOCUMENT RESUME

ED 231 719 SO 014 885

AUTHOR	Newitt, Jane
TITLE	The Treatment of Limits-to-Growth Issues in U.S. High School Textbooks: Report of a Research Project Conducted for Hudson Institute's "Visions of the Future" Program. Final Report.
INSTITUTION	Hudson Inst., Croton-on-Hudson, N.Y.
REPORT NO	HI-3583/2-RR
PUB DATE	May 83
NOTE	71p.
AVAILABLE FROM	Hudson Institute, Publications Dept., Quaker Ridge Road, Croton-on-Hudson, NY 10520 ($12.50 for educators, $25.00 for others).
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Civics; Controversial Issues (Course Content); Economic Development; Economics Education; *Energy; *Environmental Education; *Food; Futures (of Society); Geography Instruction; Global Approach; High Schools; History Textbooks; Pollution; *Population Education; Population Growth; Population Trends; Social Sciences; *Social Studies; *Textbook Content; Textbook Evaluation; Textbook Research; United States History; World History; World Problems

ABSTRACT

Sixty-three basal high school textbooks from 18 publishers were reviewed to determine their treatment of population growth, resources, environmental problems, economic development, and "package" handling of these limits-to-growth (LTG) topics. The textbooks included 21 U.S. histories, 9 economics texts, 5 civics texts, and approximately (there is overlap between the categories) 15 geographies and 13 world histories. The key criteria employed in the review were objectivity and adequacy. Adequacy is defined as the quality of what is offered (e.g., Are there factual errors? Are materials outdated?). General impressions are discussed and detailed findings are presented for each topic. Regarding adequacy, most of the texts contain misinformation and sloppy writing. For example, although 52 of the textbooks reviewed have 1980's publication dates, none alludes to the fact that the world's population rate has declined. Most texts were also found to have a lack of objectivity that was associated with a sense of urgency to change students' attitudes and behavior. Of the 63 texts, 4 made no reference to any LTG topic. The most commonly treated topics were energy (in 48 texts), environmental problems (in 46), and population (in 42). Only the energy crisis is treated in a balanced, informative way by a significant number of textbooks. (RM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

ED231719

HUDSON INSTITUTE

FINAL REPORT

THE TREATMENT OF LIMITS-TO-GROWTH ISSUES IN U.S. HIGH SCHOOL TEXTBOOKS: REPORT OF A RESEARCH PROJECT CONDUCTED FOR HUDSON INSTITUTE'S "VISIONS OF THE FUTURE" PROGRAM

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY
Thomas D. Bell, Jr.
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Jane Newitt
Associate Director
"Visions of the Future"

HI-3583/2-RR

May 1983

SP 014 085

The conclusions and opinions expressed in this report are those of the author. They should not be attributed to Hudson Institute, or to the Institute's Visions of the Future program, or to other individuals or organizations associated with the Visions of the Future program.

HUDSON INSTITUTE, INC.
Quaker Ridge Road
Croton-on-Hudson
New York 10520

PREFACE AND ACKNOWLEDGMENTS

The research reported here was conducted to aid in planning for Hudson Institute's "Visions of the Future," a five-year action program to improve instruction about the future in schools and colleges. Because we lacked confidence that the initial, varied sample of instructional materials selected for review was representative, the research project was reformulated to emphasize high school basal texthooks, and the subject matter was limited to the textbooks' treatment of world and U.S. trends and outlook for population growth, resources, environmental problems, economic development, and "package" handling of these topics.

Ultimately, 63 basal textbooks from 18 publishers were included in the detailed review. These are listed under their publishers' names at the back of the report. The breakdown by category is: 21 U.S. histories, 9 economics texts, 5 civics texts, and roughly (there is overlap between the categories) 15 geographies and 13 world histories.

Audrey Tobin, Hudson coordinator for the Visions program, was responsible for acquiring the materials, for preliminary identification and categorization of the relevant content, and for research assistance on a continuing basis. Herbert London, director of the Visions program and Dean of the Gallatin Division of New York University, provided advice and counsel throughout. Diane Harper and Bernie Ronan of the Vision program's Arizona pilot project supplied valuable information on textbook utilization in their area. Many members of Hudson Institute's professional staff aided in establishing the review criteria that are summarized in Section I-D. Special thanks are owed to Roberta McPheeters and Helen Iadanza for editorial as well as typing services (not to mention patience) during several rewritings of the report.

Although the point is made in the report, it is worth reiterating here that we were <u>not</u> reviewing textbooks. We were evaluating the treatment of topics that are usually a tiny fraction of the textbook and not part of its author or authors' area of expertise. Equally important, our primary interest was probabilistic: What views is the student likely to encounter during high school? What choices are available to the schools? From this perspective, much that is not objectionable in a specific textbook becomes a troubling collective sin of commission or omission.

Jane Newitt
May 1983

TABLE OF CONTENTS

Preface and Acknowledgments i

I. Explanation of the Project 1

A. Background 1

B. Scope of the Review 1

C. Criteria for Judging the Texts 2

1. General Criteria 2

2. Specific Criteria 3
a. Population Growth 3
b. Food Supply 3
c. Resources 4
d. Energy 5
e. Pollution and Other Environmental Issues 5
f. Economic Development 6

II. Report of the Findings 7

A. General Impressions 7

1. Adequacy 7

2. Objectivity 9

B. Detailed Findings by Topic 15

1. Introduction 15

2. Population-Food Issues 15
a. Overview 15
b. Textbooks with Extensive or Substantial Coverage . 17
c. Textbooks with Brief Coverage: Commentary 22

3. Energy and Other Resources 24
a. Overview 25
b. Textbooks with Extensive Coverage 26
c. Textbooks with Moderate-to-Brief Coverage 30

4. Environmental Problems 33
a. Overview 33
b. Extensive Coverage: The Sole Example 34
c. Textbooks with Moderate-to-Brief Coverage 35
d. Commentary 38

5. Economic Development 40
a. Overview 40
b. Textbooks with Extensive or Substantial Coverage . 42
c. The Outlook 45

Table of Contents (continued)

6. The "Package" 48
a. Introduction 48
b. How the Package is Presented 48
(1) Forms of LTG Ideology 48
(2) Styles of Presentation 50
(3) Are there Trends? 53
c. Some Themes and Messages 54
(1) Nostalgia 54
(2) Break with the Past 55
(3) Fragility, Interdependency, and "Who Should Decide?" 56

III. Endings 60

Index of References to Specific Textbooks in Sections II and III 63

Textbooks Included in the Review 64

THE TREATMENT OF LIMITS-TO-GROWTH ISSUES IN U.S. HIGH SCHOOL TEXTBOOKS: REPORT OF A RESEARCH PROJECT CONDUCTED FOR HUDSON INSTITUTE'S "VISIONS OF THE FUTURE" PROGRAM

I. EXPLANATION OF THE PROJECT

A. Background

In January 1982, Hudson Institute initiated a five-year program to improve instruction about the future in American schools and colleges. As a pioneer in the conduct of policy-oriented futures studies, the Institute has often been urged to translate its knowledge of the field into terms accessible to young people. Initially, the program, "Visions of the Future," has concentrated on the development and classroom testing of a three-week unit for high school social studies and humanities courses. The program responds to widespread concern that educators are receiving and communicating to students an inadequate and unrealistically pessimistic global outlook, especially with respect to the so-called limits-to-growth issues of population, resources, the environment, and economic development.

The review of 63 basal textbooks reported here is part of continuing research to investigate what futures-oriented materials are at present available to the schools, how they are used, how teachers and students view them, what needs improvement or correction, and what is being done well.

B. Scope of the Review

The review is limited to coverage of "limits to growth" topics--hereafter termed "LTG topics"--at the high school level. These topics are treated (a) in the context of "futures studies"; (2) in basal textbooks (geography, world and U.S. history, civics, economics); (3) in supplementary print materials; and (4) in audiovisual materials. In other words, "futures" units and courses are a trivial element in the overall picture of the schools' influence.

The schools have access to many materials promoted by lobbying organizations and businesses. The catalogs they receive also include books and adaptations of books by authors identified with particular viewpoints. The review focused exclusively on materials marketed to the schools as "objective." Even with this limitation, problems of time and access prevented thorough coverage of the supplementary print and AV materials. For this reason, primary emphasis was placed on analysis of more than sixty basal textbooks. Although it had been hoped to identify actual usage by means of statistics, this information proved unavailable. Nor was there any convenient way to find out what materials were most popular with teachers.

C. Criteria for Judging the Texts

1. General Criteria

The key criteria employed in the review were adequacy and objectivity. Within basal textbook categories (geographies, histories, etc.), treatment of specific LTG issues varies from nothing to a great deal; four of the 63 texts touch on none of these topics. The var ability raised a problem in judging "adequacy." From the student's viewpoint, a well-written paragraph on a complex subject is not as adequate as a well-written chapter, if the subject is important. From the textbook publisher's viewpoint, a great many important topics are competing for attention in books that typically have 400 to 800 pages already. We employed the publisher's viewpoint in evaluating the treatment of LTG topics in particular texts, but the student's viewpoint in judging the overall adequacy of the available textbooks.

For specific texts, adequacy means the quality of what is offered: Are there factual errors? Are outdated materials used? Are complex concepts incorrectly explained or improperly treated as self-explanatory? Is the material confusingly organized?

There is, of course, not a clean separation between adequacy and objectivity. The hypothesis tested by the review has an irreducible subjective component. A textbook may be scrupulously factual in covering "pessimistic" clues to the U.S. and global future, but inadequate in failing to cover "optimistic" clues. To the extent that basal texts encourage teachers and students to "look ahead," it is certainly legitimate--in the name of adequacy--to inquire about the balance between attractive and frightening possibilities, and between interpretations that cultivate a constructive sense of historical continuity and those that do not.

In order to minimize the subjective component of the evaluation process, we did not attempt this kind of contextual analysis, concentrating instead on the separate treatment of the topics of interest to us, and on such connections among them as the authors themselves made. However, even this narrow approach does not avoid ambiguities. The uncertainties of the future assure that different people, well-informed on the basis of the same body of data and theory, would write different passages if urged to be fully objective. However, this does not mean that they would deny the label of "reasonably adequate" and "reasonably objective" to other treatments of the same topic.

This is the standard we have employed. The following section summarizes what we would regard as appropriate treatment of the LTG issues at a minimal and expanded level of coverage, defined by reference to a substantial consensus of expert opinion at this time. Expert disagreement would pertain mainly to the "minimal" level of coverage. That is, what is most important to include in a brief allusion is judgmentally more sensitive than what an extended treatment should cover.

However, our positions lie well within the mainstream of what subject-area experts would prefer. They are not associated with the view of some educators that students should be protected from unpleasant global realities for psychological reasons. We believe that, by high school level, students should be able to handle a considerable range of unpleasant facts and theories. The schools' role should not be to counter (or ignore) the news media's emphasis on "bad news" and extreme interpretation, but to educate.

2. Specific Criteria

a. Population Growth

Textbooks published in recent years should not refer to the U.S. population as growing "rapidly" or to the world population as growing at "an ever-increasing rate." Fertility in the United States has been below "replacement level" since the early 1970s. The world's growth rate has dropped by 10 percent or more since the mid-1960s. Graphs in textbooks showing U.S. or world population growth in the future should not present an exponential "J-curve" but an "S-curve." This representation of a move toward future population stability is the correct form for a projection of the type: "if recent trends persist."

Textbooks that deal with aggregated global population trends in more than a sentence or two should provide basic demographic instruction. For example, absolute numbers increase until the growth rate falls to zero. This will occur globally when births equal deaths. Even if recent trends in the world's growth rate persist, its population will more than double before it stops growing.

A textbook that gives further detail can use a map that distinguishes among recent growth rates in various parts of the world. This map can be used as a basis for describing the demographic transition from large to small families that has occurred in all the industrial countries and is occurring at a more rapid rate in those that are industrializing. The countries whose growth rates are very high and still rising are very poor countries, mainly in sub-Saharan Africa. Explanation (theories) of demographic-transition dynamics can be given at varying levels of complexity. Age-group graphs (population trees) can be used to explain the difference between fertility rate and growth rate; that is, it can be shown that a country like Mexico, with very large numbers of children, will have a high growth rate in the next generation even if its fertility rate drops sharply, simply because so many children will be reaching the age to become parents.

b. Food Supply

Responsible minimal treatment would relate the food production necessary to maintain or improve the average diet to the slowing population growth rate and to the expected more-than-doubling of people to be fed. U.N. and World Bank data may be used to show,

respectively, that half the world's land classified as arable is not being farmed, and that per capita food production has increased for the past three decades, although at a dwindling rate.

Simple statements that X percent of the world's people are starving or "go to bed hungry at night" should not be included in the minimal treatment. If a textbook treats the "world hunger problem" in more detail, several kinds of distinctions are essential. One is between insufficient food and a diet lacking in important nutrients. A second is between chronic inadequacy of food (in either sense) and occasional inadequacy associated with bad crop years or with poverty amid abundance. According to the World Bank, estimates of the malnourished range from 500 million to one billion out of a present world population of 4.5 billion.* There is no responsible source for statements that half or two-thirds of the world's population is "starving" or "malnourished."

The affected numbers are very large, but the proportion of the world's population that is inadequately fed has declined dramatically over time. The text should specify reasons for this, including improved transportation. It can be flatly stated that the world's ability to feed twice its existing population with present agricultural techniques is not in doubt. Extended treatment should discuss innovations in food production. This should be balanced by treatment of the problems that produce nutritional insufficiency today. Environmental hazards associated with expanding production should also be indicated. "Case studies" of various countries can be useful.

c. Resources

"Dwindling resources" is not a self-explanatory statement, but seriously misleading. The term connotes a raw material--something in the ground--that is progressively used up. Logically, the more of it that is used, the faster the finite supply is exhausted, and the higher the price rises. As this occurs, qualitatively inferior substitutes are found, or more people are forced to do without.

This model lacks historical support. The raw material is only part of the "resource," other components being added by technology, social organization, capital, and competition to meet demand, which have usually produced declining prices relative to other prices and wages. It is difficult to phrase a minimal treatment of non-renewable-resource issues to convey a reponsible picture of raw material trends and outlook. However much of the background information could readily be integrated into the narrative of history texts that cover the Industrial Revolution.

It is essential for students to appreciate that, if the connotations of "dwindling resources" apply in the future, this will represent a reversal rather than a continuation of historical trends. Historically,

---

*A recent UN/FAO report indicates 400-500 million.

the common practice of substituting one material for another has not usually been a setback, but a progressive step. (A useful current example is substitution of glass fibers, microwave, and satellite communications for copper wire.)

The use of resource statistics should reflect understanding of terms such as known or proven reserves. If estimates of the timing of future scarcities are used, the assumptions should be specified and sources of the data cited. For a high school textbook, it is probably more appropriate to give examples of minerals that are thought to be relatively scarce, with their uses. Dependency on imports should not be confused with global scarcity. Discussion of the role of minerals in world trade would be useful.

d. Energy

Because of its topicality, the energy outlook deserves special treatment in the current generation of textbooks. If this is not done, even a minimal treatment of resources should clarify the essentially political character of the petroleum-price problems since 1973, including the special problems associated with a U.S. policy of maintaining domestic prices far below the world level. The desirability of reducing dependency on a foreign cartel for a key raw material should be separated from, as well as linked to, the need to develop substitutes and reduce waste of fossil fuels.

The longer-term expectation of decline in cheaply extractable sources of oil and gas should not be treated as representative of the fifty-year outlook for minerals, and it should not be depicted as something that will materialize abruptly. A more extended treatment should break down petroleum uses into components, considering possibilities for substitution and conservation in each. It should also be shown that the limited future of heavy dependency on cheap petroleum has been understood throughout the period that this material has been in use. It is useful to explain and illustrate conflicts between "energy" and "environmental" goals in the present and the middle-range future. If social objectives are specified, the teacher should have a choice between emphasis on maintaining and propagating what Americans now enjoy (e.g., personal transportation and a range of electrically-powered labor-saving appliances) and promoting reversion to earlier urban and rural lifestyles (or advance to new ones). In this and other respects, the notion that LTG problems can be solved by retreating from "bigness," interdependency, and technology should not be encouraged in a basal textbook.

e. Pollution and Other Environmental Issues

A minimal treatment should break down present pollution-control efforts into tradeoffs--what affluent societies are willing to pay to secure cleaner air and water, and to protect the natural world--and responses to the sequences of specific health hazards associ-

ated with industrialization, urbanization, and population growth. Again, elaboration could easily be integrated into the narrative of history texts. Pollution control measures such as separating water supply from sewage disposal have contributed greatly to dramatic extension of life expectancy in most LDCs* as well as in the advanced industrial countries before them.

A more extended treatment should make more refined distinctions. Higher standards that affluent countries can afford as an amenity can be distinguished in more detail from the current forms of old, serious problems such as workplace exposure to harmful chemicals and disposal of toxic wastes. There is also a third class of problems, associated with the growing scale of human industrial and agricultural activity. This also includes current forms of older problems, with smog, acid rain, deforestation, erosion, and species extinction being examples. But there is concern that such historically local or regional problems could become globally harmful; examples are the "greenhouse effect" or an opposite, cooling effect, and threats to the ozone layer. It should be stated that experts differ on which of these problems, if any, will pose serious hazards. Human impact on the environment should be treated in balanced positive-negative terms.

f. Economic Development

Global relationships should not be presented in terms of a "widening gap" between a few rich countries and a great mass of poor ones. National data on per capita GNP, economic growth rates, and welfare measures such as life expectancy invite the alternative image of a spectrum of nations, with the greatest gains in recent decades registered in a populous middle group that, on some measures, houses a majority of the world's population. The widening-gap concept is of secondary importance, relating to the extremes and to income distribution within some middle and low income countries.

A minimal (or extended) treatment also should not convey the false impression that economic performance in low or middle income countries will improve if rich countries restrain growth and curb consumption. This economic model is not merely simplistic, but at odds with any realistic understanding of the dynamics of global economic betterment. An interdependency model should be employed.

Extended treatment can flesh out the interdependency model, and deal in a balanced manner with the ways in which the industrialization process is easier and more difficult today than in the past. Again, much useful information on this process could be integrated into the narrative of history texts that deal with global issues only cursorily in a final chapter. It would also be valuable to consider the "social limits to growth" that are evident in the rich countries, and to relate these to their counterparts in traditional societies.

---

*Less Developed Countries.

II. REPORT OF THE FINDINGS

A. General Impressions

1. Adequacy

Do high school teachers have ready access to instructional materials of adequate quality for teaching the basic data and concepts necessary to understand LTG issues?

The most common source, the news media, is evidently not adequate. News items are not systematically interrelated; their treatment is sporadic and superficial; and criteria for editorial selection emphasize the novel, the fashionable, the startling. Many supplementary materials produced for the schools have similar failings. A common format is books of readings designed as back-up for current events discussion. The selections are made to illustrate contrasting viewpoints. Extremes are thus over-represented. Statements by eminent scholars adjoin polemics, lurid excerpts from science fiction, and editorials from obscure newspapers. Outdated articles present statistics and population projections from the early 1960s. Editors make no note of outdated information, nor do they bother to correct flagrant errors and distortions.

Superficially, the economics of production are a factor. A typical paperback of this kind is put together by production experts without consultation with subject-area experts. However, because some of these deficiencies also characterize The American Dream (1980), a hardcover, lavishly illustrated book of readings published by Scott, Foresman, economic constraints are evidently not a complete explanation. For example, this source offers two readings under the heading, "Population Growth," with the introductory statement, "Following are arguments by both sides. Summarize the major points made. Then make your own decision about population growth. Is it a problem?" The two selections were first published in 1969 and 1970. Both cite U.S. population projections developed at the peak of the "baby boom," indicating a U.S. population in 2000 40-50 million higher than the range considered probable at the time The American Dream was published.

Responsibility for remedying this problem is left mainly to the basal texts.* However, most of them have not chosen to accept it. As is detailed later, an astonishing amount of misinformation and sloppy writing appears in these expensively produced volumes, and it is not even uncommon to find real or apparent internal contradictions. For example, in the section on India in Global Insights (Charles E. Merrill, 1980), only one paragraph separates a statement that 149 Indian babies out of every 1000 die each year from the statement, "Between one-third and one-half of all babies die."

---

*The textbooks covered in the detailed review are listed at the end of the report.

Recentness of publication and/or extensiveness of coverage are not guarantees of adequacy. Although 52 of the textbooks we reviewed have 1980s publication dates (14 bearing 1983 copyrights) none alludes to the fact that the world's population growth rate has turned down. Only two mention a significant decline of birth rates in the underdeveloped world, and one of these contradicts itself elsewhere. By contrast, statements that the world's population is growing "much, much faster than it ever did before," as one puts it, appear in several of the 1983 texts.

Another simple example of inadequacy is statements on the prevalence of serious nutritional problems. The range of estimates cited by the World Bank translates into proportions of a ninth to, at most, a fourth. Most textbooks that cite a figure are above this range, and the most common statement is that two-thirds of the world's population "goes to bed hungry every night" or "suffers from starvation." Unavoidably, the depiction of half or two-thirds of humankind as malnourished locks textbook authors into "gap" imagery of the world as divided between, as one puts it, 15 percent rich and 85 percent poor.

Misrepresentation of facts, expert estimates, concepts, or theories blemishes to varying degrees all of the texts--mainly geographies--that attempt extended substantive instruction on population and resource topics. An example that is especially dismaying in view of other merits is the sloppy treatment of population trends in Follett's World Geography (1983). An outdated graph shows a world population of 8 billion in 2000, while an up-to-date table indicates a world population doubling time of 41 years. These inconsistencies are followed by a textual reference to 8 billion, another statement that "Even if birth rates decline, the lowest population forecast...is 5.9 billion...," a mangled explanation of demographic transition in which birth rates in "the developing nations of Asia, Africa, and Latin America" are said to "remain about as high as those in the first stage" (i.e., at peak levels), and a contrary statement that "In about two-thirds of the developing nations, the overall birth rate has fallen by about 15 percent since 1960." This text also states, "Of all the people in the world, less than 30 percent may meet their food needs," and, in the next sentence, that 500,000 (an inconceivably small proportion, in their context) die from nutrition-related causes each year. Later, the malnourished proportion is stated as 60 percent.

History textbooks more commonly use a conceptual approach, tending to treat LTG issues as a package of threats derivative from past errors and calling for attitudinal and behavioral change. However, history itself is frequently misrepresented: "Today, perhaps for the first time in 200 years, the concept that 'all change is progress' is being seriously questioned." (Allyn & Bacon, 1975); "As never before in the nation's history, men and women in every walk of life faced the urgent need to reexamine the nation's goals as well as their own personal objectives." (HBJ, 1982); "...hitherto unexamined American assumptions

such as that technological progress is automatically good..." (Macmillan, 1981).

As we became familiar with the varying styles of coverage of LTG issues, we gained appreciation for the difference between "adequacy" of "ex cathedra" pontification, and "adequacy" in providing a solid, substantive understanding of the phenomena that have been transformed into "issues." The former, at best, implants attitudes and items of information in a responsible way. As noted earlier, this is adequate in the context of some textbook authors' legitimate priorities, but not from the student's point of view.

The probabilistic questions are also important: What choices does the school have? How likely is it that students during a high school career will encounter or accumulate a solid, elementary education on the demographic, economic, scientific, and other basics that underlie "global issues?" We are not prepared to generalize about the specialized curricular materials put out by university and other institutions for the use of the highly-motivated teacher. However, we are forced to conclude that no combination of basal history, geography, civics, and economics texts fully meets the need. And a great many combinations will repeatedly expose the student to erroneous information.

2. Objectivity

Lack of objectivity in the treatment of LTG issues is characteristically associated with a sense of urgency to change students' attitudes and behavior. The "futures studies" field seems more generally inclined to moralization, but with particular emphasis in the area of global trends. In the two most recent teacher guides to futures studies, pessimism is rife. John Haas, whose project was sponsored by the National Institute of Education, is quite frank about his biases in his introductory comments:

> ...I tend to agree with those futurists who see the need to abandon (or at least to modify) those values and assumptions of Western industrialized nations that have brought these societies to the brink of disaster and that threaten the future existence of our species.*

Draper L. Kauffman, Jr. makes the same point indirectly in summarizing "key issues" such as the following:

> Food production is losing the race with the population explosion, and a massive famine within the decade seems probable. The main question remaining is whether famine will come in a single global disaster, or whether it will come as a chronic series of regional famines.
>
> (E)very elimination of a habitat or species, every introduction of a new artifical chemical, and every increase in the demands

---

*John D. Haas, Future Studies in the K-12 Curriculum (Boulder, CO: Social Science Education Consortium, 1980).

> we are already making on the environment represents an increased risk of unknowingly crossing some threshold which will cause the system to collapse.
>
> (A) shift to slow-to-no-growth (is) likely for the economy as a whole. Although no-growth might be desirable for many non-economic reasons, among them the opportunity it would give the developing nations to catch up, it poses a serious threat to the economic stability of all industrialized nations.*

A review of 1970s futures courses by Robert Fitch and Cordell Svengalis concluded that these courses were biased toward optimism about the world's ability to solve global problems.** A deficiency of this conclusion is that the authors' definition of optimism would include Haas, who goes on to say, "I am gravely alarmed, yet hopeful for the needed transformations in culture and consciousness." It is quite difficult, in fact, to find in the adult "doomsday" literature to which Fitch and Svengalis allude any authors who do not contend (like Haas) that salvation is possible if the sinful soon mend their ways.

The changes in values and behavior promoted in textbooks are usually of kinds that many people would advocate even if global trends were not construed so grimly. What is now preached in the name of survival is almost entirely what has been preached to middle-class children throughout the Industrial Revolution. It is essentially a package of New Testament virtues, infused with nostalgia for pre-industrial simplicity. Whether presented as a means to avert doomsday or more moderately as a constructive adaptation to the supposed inevitability of a more austere future, nearly all of its themes are deeply traditional--rejection of crass materialism, responsibility to the unfortunate, "waste not, want not," harmony with (and stewardship of) nature, cooperation versus competition. The only truly novel ingredient is the ethical importance of limiting fertility, which is usually implied rather than stated in the textbooks.

Also new, however, is the use of a secular counterpart to "fire and brimstone" theology as an instructional technique. For considerably more than a century, the mainstream of educational philosophy has fought against the old moral pedagogy of fear and guilt. Child development has been viewed in Pelagian rather than Calvinistic terms: the teacher's task is, by positive reinforcement, to cultivate the child's natural goodness, countering contaminating influences in the social environment. This m ssion was embedded in the Enlightenment's ideology of progress

---

*Draper L. Kauffman, Jr., Futurism and Future Studies (Washington, DC: National Education Association, 1980).

**Robert Fitch and Cordell Svengalis, Futures Unlimited: Teaching About Worlds to Come, National Council for World Studies, Bulletin 59, 1979.

and reflected in advance characterization of the 20th century as "the century of the child."

It is probably not coincidence that the reintroduction of a whiff of hellfire into education comes so soon after the romance of childhood and youth achieved its most extreme expression in the 1960s, and in a cultural context that rejects both a sense of progress and the child-centeredness of family life in the postwar decades. At the same time, there are enormous residual resistances to a policy of scaring and shaming children into being "good." Draper Kauffman, for example, uses child psychology research as a basis for urging teachers to emphasize "positive" future possibilities in order to avoid harm to tender young minds.

Primarily for this reason, we suspect that the Fitch-Svengalis conclusion of an optimistic bias in futures courses may have greater validity in actual practice than in materials for teachers. This does not mean that the LTG issues are well taught. More probably, it means that they are relegated to a unit within the course that is not very popular with students or teachers (one Western educator we interviewed called it disparagingly, "the goody-goody stuff"), and is <u>not</u> well taught.

There is an obvious potential for mischief in the conception of "future" studies (the singular adjective is used by both Haas and Kauffman) as a vehicle for moral instruction. Straddling the humanities and social sciences, this curricular hybrid is at liberty to draw on the abundant shock literature of science fiction, or on a teacher's unhealthy imagination--e.g., an "activity" suggested in one teacher-developed syllabus is class discussion on how to solve the hypothetical "problem" of a 2050 in which there is no longer any room to bury dead bodies.

Sensationalism is, however, less common in the textbooks we reviewed than the tendency to elevate the objective of moral instruction above adherence to scholarly canons of empirical and theoretical formulation. This is least common in the discussion of alternative energy sources for the future, where numerous texts provide information in a balanced way. We suspect that the main reason for this exception is that Americans have had immediate experience with spiraling petroleum prices and supply disruptions. This is a "real" issue. It may be used to stand for a general moral lesson on conserving dwindling resources for future generations, but there is also a social imperative to treat energy as a practical problem requiring solution. "Facts" are important. Tradeoffs must be considered seriously, not pre-judged on some abstract ground. Also, this is the issue where pressures to reassure the school-child seem most evident, although several textbook authors seemed almost gleeful about the possible demise of the automobile.

Discussion of pollution and the environment is quite different. Objectively, the key consideration for the future is whether the modern scale and forms of human activity will have a major or catastrophic effect on the global environment. Yet these hazards, when stated (or

misstated) in the textbooks are often fused to hyperbolic treatment of conventional pollution issues. This is often ahistorical--repeatedly, students are led to believe that cities were less polluted, water supply safer, and hazards from toxic materials unknown in earlier generations.

Together with such indiscriminate lumping together and "hype" of vastly different problems, environmentalism is sometimes a means for venting Jeffersonian dislike of cities or aesthetic disdain for such products of mass affluence as suburban sprawl, automobile graveyards, and roadside clutter. Where the "environmental crisis" rather than the "energy crisis" is treated as the crux of current issues, constraints on objectivity are notably relaxed. In such an unexpected place as Merrill's Economics (1979), discussion of the difficulty of assigning costs of pollution control can abruptly erupt into catastrophism:

> The problem of pollution is not confined to the United States. The globe is covered with a belt of filth, and as the earth travels, it picks up additional millions of tons of pollutants. Some scientists estimate that the average temperature of this planet will rise by seven degrees within 25 years due to the blanket of air pollution which keeps heat from escaping into space. This "greenhouse effect"...will result in some melting of polar ice caps. As this melting takes place, the sea level will rise dangerously. It would not take much of a rise to completely flood large sections of this country....

Why cite the most extreme estimate available? (How many scientists is "some"?) Why not mention that the earth's climate has actually been cooling, not warming, in recent decades; and that "some scientists" expect this to continue, primarily for natural causes but also because particulate pollution screens out sunlight? Like the text that twice wrongly describes CO_2 accumulation (the principal basis of the "greenhouse effect") as having a cooling effect that "could mean the end to everything we value in modern civilization," this one is out to scare, not to teach. Among the textbooks that allude to either of these contradictory versions of environmental catastrophe, only Houghton-Mifflin's geography mentions that both have serious scholarly support.

Instead, "balance" typically takes the form of an incongruous juxtaposition of grim statements and warnings with a flag-waving, forced cheerfulness about Americans' traditional problem-solving capabilities. Most textbooks also provide an impression of detachment by liberal use of such phrases as "Many (or some) experts say" and "Some (or many) people believe." The choice between "many" or "some" often seems to have no connection with the controversiality or uncertainty of the statement. (What "other" experts say is often unmentioned.)

Many textbooks end on the upbeat--sometimes flatly contradicting themselves. In the body of the text, it is quite unusual to find such a refreshing statement as the following, from Rand-McNally's Geography and World Affairs (1976): "Rising population and rising expectations are engaged in a race...a problem but also...an opportunity....What makes today remarkable and hopeful is that, for the first time in history, the mass of men has a chance to escape the grind of poverty."

If one pictures the student as exposed to a sequence of textbooks in the high school years, the chances seem very strong that he or she will never encounter anything but the emptiest platitudes offering hope for the global future. This student will not have been encouraged to take pride in the accomplishments of industrial societies. These may be treated with a relativism which implies an equal possibility that people were better off when life was the Hobbesian solitary, poor, nasty, brutish, and short. He or she will not have been taught to draw reassurance from the "problem-solving" capabilities in our complex social, economic and technological structure, with its wonderful integration of specialized parts and multiple decision-making centers. On the contrary, a typical student will repeatedly be told that this machinery is the source of the nation's and world's ills, with hope for the future lying in a heroic break with the past.

One reviewer of the draft version of this report expressed skepticism tht we have fully documented this conclusion. By focusing upon what we ourselves called the "limits-to-growth topics," he suggested, we predetermined a finding of pessimistic bias. This is certainly correct for textbooks that treat these topics as a "package," since they are simply reflecting an adult popular literature that is pessimistic to a very great extent.* The package was initially formulated specifically as a warning of disaster if population and economic growth persist.

As explained earlier, we did not conduct a contextual analysis because we saw no satisfactory way to assess how students' views of the future are affected, for example, by an exaggerated depiction of the world hunger problem and an accompanying item on career opportunities in the nutrition field. However, it is also true that the LTG topics overwhelmingly dominate most textbooks' future-oriented subject material today. A few books have sections on technology that are designed to evoke excitement and hope that human ingenuity will "solve" the world's problems. But the technological outlook is as often depicted as part of the problem, with or (more often) without a special section on nuclear war.

---

*Some books with more optimistic outlooks include Herman Kahn, et al., The Next 200 Years: A Scenario for America and the World (New York: William Morrow & Co., 1976); Julian L. Simon, The Ultimate Resource (Princeton: Princeton University Press, 1981); John Gribbin, Future Worlds, (London and New York: Plenum Press, 1981); and William Tucker, Progress and Privilege: America in the Age of Environmentalism (New York: Anchor Press, 1982).

The "pre-ordained" finding is, we believe, nonetheless a significant finding. The global growth topics are being used very widely to stand for the future. Beyond question, most textbook authors are not well-informed on these topics. They deal with them because intellectual and media fashion say they should--and how they should.* In teacher language, these are "critical issues," a conceptual invention that selects from the welter of current events a few themes that are appropriate for conveying moral messages.

We have seen so many and varied abuses to which this concept conduces that we have to regard the current manifestations as symptomatic of a bigger problem. The biases are pessimistic today. However, not so long ago another batch of "critical issues" was being used to encourage students to expect a roseate do-your-own-thing future, where incomes would rise automatically and life would be occupied with the quest for self-fulfillment and social justice.

Rather than following the pendulum swings, basal taxtbooks would do better to acknowledge the serious issues of the day by providing the basic instruction (demographic, economic, scientific, etc.) that is necessary to understand them. Even the history book that limits its coverage of current concerns to brief reportorial reference can incorporate substantive background material into its treatment of the antecedents of recent trends. Second, these are expensive books. The publishers can afford expert review and the use of consultants where subject matter lies beyond the authors' area of expertise. Yet we encountered endless passages--indeed, whole chapters--in generally satisfactory textbooks where this had obviously not been done.

The issue is priorities. Ironically, the "critical issues" concept assigns a high priority to treating certain topics, and a low priority to treating them responsibly. Also, like the previous set of such topics--racial discrimination, domestic poverty, and the cultural changes attributed to the "forerunner" generation and the coming of "post-industrial" society--the global topics are vulnerable to being phased out as fashion focuses on new vehicles of indoctrination.

---

*Lists of suggested outside reading for students or teachers are sometimes instructive in this respect. In one textbook, the only suggestions apropos of LTG topics are: "The Limits to Growth--discusses the global effects of rapid and continued technological growth. Based upon careful predictions, this book outlines the potential catastrophy (sic) of continued uncontrolled growth. Small is Beautiful--a comprehensive economic analysis of the global political system focusing, in part, on the uses of resources such as education, land, and nuclear energy. Bread for the World--focuses on the general problem of world hunger...." (Prentice-Hall, 1982).

This would be unfortunate. Old and new, these are important subjects. There is much of enduring value that could be taught children about them.

B. Detailed Findings by Topic

1. Introduction

This section of the report is organized under the following headings: population-food; energy-other resources; environmental problems; economic development; and "package" treatment of LTG topics. The reader is asked to bear in mind that we were not reviewing textbooks, but the treatment of certain topics. This varies in length from units of several chapters to chapter-end "review" questions on topics the chapter did not, in fact, cover. We use the term "inserts" for material that is set off typographically from the text proper. A few quotations are from teacher editions. All textbooks that provide extensive coverage of a topic are separately discussed. The numeric references accompanying quotations and paraphrases can be identified in the bibliography at the end of the report.

Of the 63 basal textbooks, four made no reference to any LTG topic. The most commonly treated topics were: energy (in 48 textbooks), environmental problems (in 46); and population (in 42). Thirty-two texts were classified as handling LTG issues as a package. The minimal requirement for this designation was a combined reference to resource and environmental problems in the future. Not included were linked treatment of topics without a future orientation, such as current conflicts between environmental and energy or economic objectives, or conventional discussion of agriculture and raw materials in some geographies. Twenty textbooks defined the "package" more than minimally. Thirty-one refer to catastrophic possibilities in the future. These include several texts that do not employ a "package" approach.

Although we employed an internal grading system, the ratings proved inconsistent and are not presented here. Notably, we began by judging "adequacy" according to our criteria and ended up judging it by reference to other textbooks.

2. Population-Food Issues

a. Overview

Population and food issues are treated, respectively, by 42 and 37 textbooks, usually in combination or with cross-referencing. Extensive coverage is found only in a few geographies. Coverage of moderate length is mainly found in geographies, also. Seventeen U.S. history and civics texts make no reference to world or U.S. population or food issues, with the exception that several of these texts allude to "dwindling" farmland in connection with discussion of the environment or resources.

With the exception noted below, no textbook is fully "adequate" in treating the population topic, because none mentions that the world's population growth rate has been declining since the mid-1960s, or that it has declined at all. Two texts (49, 11) mention significant birth-rate declines in LDCs. The second of these contradicts itself elsewhere; the first is a difficult economics text more used in colleges than in high schools.

Fourteen textbooks graph the J-curve of exponential population growth. The teacher guide in one 1983 geography calls this a lesson in itself (61). None graphs the S-curve of future population stabilization, although this is the correct projection if recent trends persist. (Graphs in this form are readily available in UN and other publications.) The economics text mentioned above (49) does not have a J-curve graph, and it clarifies that demographers are now cautiously optimistic that "population in the underdeveloped world will stabilize by the middle of the next century.... Thus as a long-term problem, population is less of a concern than it was." The seriousness of the interim problem is indicated in this text by the example of Mexico, with a projected 2050 population of 300 million, even if "optimistic" estimates of continued birth rate declines are used.

This book's handling of the food-supply subject is also carefully phrased, with sources cited for statistics. Its authors--the well-known economists, Robert Heilbroner and Lester Thurow--happen to be profoundly pessimistic about the world's long-range future on other grounds, but they set a standard for responsible presentation of the population-food topics that no other textbook comes close to meeting.

Forty-four textbooks included in the review were published as recently or more recently than the Heilbroner-Thurow text. Many allude to the Reagan Administration; some include 1980 U.S. census statistics. Their failure to indicate evidence for a more hopeful long-range outlook for the world's population trend cannot be extenuated on grounds of long lead-times.

The trend and outlook for food supply are almost always discussed in relation to population growth. Several textbooks largely or entirely cover this relationship on a region or country-by-country basis. This coverage is strangely erratic. Population/food issues are more often dealt with in instruction about India and Latin America than in chapters about Africa or China. No textbook mentions, for example, that China has about half the arable land per person of India.

Updating statistics is obviously a more ambitious project for texts with a regional approach. This may be why the 1981 edition of one of them (13) uses a 1961 figure for Indian life expectancy--42 years--which is eleven years lower than the late-1970s estimate. Badly outdated global statistics are also found, however. Four examples: Another geography (18) generalizes LDC life expectancy as "thirty to thirty-five years." An economics text (59) states that the figure is "often under 40 years." Textbook #18 also says that "the population

of the world passed the three billion mark some years ago." Another (66) describes the world's population as "nearly" four billion long after this milestone was reached.

Close to half the texts that treat population and/or food have what we consider factual errors in discussing one or both. Contradictions within the prose or between prose and graphic materials are common. It is extremely rare for sources to be cited, for numeric estimates to be presented as a range, or for students to be cautioned about the reliability of the statistics.

b. Textbooks with Extensive or Substantial Coverage

The textbooks that place most emphasis on population and food issues vary in style and content. The most extensive treatment of both topics is in Follett's two 1983 geographies. These are not versions of the same text, but they have in common a global discussion, a relatively simple reading level, very attractive graphics, dull prose, extreme unevenness of quality, and a mixed but predominantly pessimistic depiction of recent world trends. Our discussion focuses on World Geography (11).

Three lessons in this text are devoted to food and agriculture. The lesson on "Agriculture and Its Products" is informative, including an insert on "Chemicals in our Food." The prior lessons, "Meeting Food Needs," and "The World's Food Supply" also provide useful information. There is a well-organized discussion of means to increase food supply. Pictures and their captions are excellent throughout.

By contrast, the text's instruction on the world hunger problem is execrable. Extraordinary and internally discrepant figures on the hungry or malnourished proportion of the world's population are cited. From the text, it is ambiguous whether these figures include affluent Americans with imbalanced diets. The text says that 500,000 people a year "die from the effects of hunger...or from malnutrition." In context, this low estimate implies a nutrition-related death rate of only one in 6200 among the more than 70 percent of the world's population that is declared, in the preceding sentence, not to "meet their food needs."

The text also states that "the rate at which population is growing is greater than the rate at which farmers are able to increase food production." In the teacher's edition, a footnote on world grain reserves is provided as documentation. Follett's other geography (10) develops this inference at greater length, including a table on grain-reserve trends. This is an inappropriate use of these statistics. It is generally accepted that measured food supply has been rising faster than population for three decades.*

---

*See, for example, World Bank, World Development Report 1982, London: Oxford University Press, 1982, p. 41 table.

World Geography (11) also devotes three lessons to population. The extreme internal disparities in statements about world population growth were noted above (Section II-A-1). The discussion of demographic transition is handled very poorly. The student is told that "most of the fully industrialized nations have reached the stage where birth rates fall." Actually, all have done so--commonly a century ago, and their recent range in rates of natural increase is below the range the text cites. As part of the same discussion, the text incorrectly states that LDC birth rates "remain about as high as those in the first stage" of demographic transition (i.e., at peak levels). The discussion concludes with a non sequitur: "At different times in history, a few nations have entered the fourth stage, which is marked by even lower birth and death rates....A nation may enter this stage because war, disease, or famine has taken many lives." (Emphasis added.)

Follett's Our World Today (10) has a useful elementary explanation of population statistics. However, it states that "the population continues to grow faster and faster," and that "world population continues to grow at an increasingly rapid rate." The J-curve graph shows 8 billion people in 2010; World Geography's shows 8 billion in 2000. The latter, in particular, is far out of line with the UN range.

A lucid presentation of the demographic transition is available in another 1983 text, Scott Foresman's People on Earth (61). This book provides an up-to-date world growth-rate figure and "doubling time," as well as instruction on how to compute a country's rate of natural increase. Unfortunately, it also describes the world's population as "growing much, much faster than it ever has before," and it states that "two-thirds of the world's people...do not get enough to eat." (As indicated previously, the top of the expert range of estimate for insufficient quantity and/or nutritional quality of food is about 1 billion of the world's 4.5 billion people.) The world population in 2000 is shown as at least 7 billion in the J-curve graph, while the text states that it could be "as many as six billion." Regional differences in the population-food outlook are reasonably described in a subsection, "What Lies Ahead?" At the end of the chapter it is said that "some people believe that Earth can support fifty billion people or more. Others believe the present world population is already too high." The text lacks substantive instruction on agriculture.

Macmillan's Global Geography (41) is unusual among the geographies in treating all of the LTG topics in a single chapter. It combines some useful material with a strong motivation to shock the student out of complacency. The discussion of population-food issues begins with a dramatic absolute-numbers graph showing the 8000-year trend in world population, with the J-curve rising up the margin of the page, a presentational technique also used in the Scott Foresman text just discussed. Macmillan's prose begins: "Suppose you are a survivor of a shipwreck." 'You' find an island and are glad when a few others join you, but alarmed when large numbers do so--"The more people there are, the less food there is to go around."

The book continues: "Growing numbers of people are straining resources and leading to overpopulation....It is hard to imagine the immensity of the problem....During the time you sit in geography class today...over 16,000 will be born....(F)or every 28 persons born, only 11 will die." Exponential growth (no other kind is discussed) is illustrated by an LDC family with four children, each of whom has four children who in turn each have four: "Moreover, all 64 human beings may have to make a living or feed themselves by using about the same amount of land that supported the original family of six individuals." The earlier population explosion in Europe and the United States is shrugged off on the ground that "the new machines and techniques made it possible for food supplies to keep pace." The concept of demographic transition is not taught in relation to the Third World.

The Macmillan text has a good, compact explanation of the effects of malnutrition. This topic, however, is treated in a strictly Malthusian manner, without reference to factors other than population growth that limit access to food. Again, students are exposed to the ridiculous statement that "every night, about two-thirds of the world's people go to bed hungry." The development of high-yield grains--the "green revolution"--is treated in terms of its inadequacies. The only concession to optimism is: "Some experts believe that the problems of overpopulation will solve themselves once a country reaches a certain level of modernization."

Fairly extensive treatment of population-food issues is also found in two Silver-Burdett geographies, one of which is quite idiosyncratic. The more conventional, World Geography (66), provides a world map showing birth-rate differences. It notes incorrectly, "The curve of population growth rises ever more steeply," and, "In most of the poorer...countries little has been done to persuade people that they and their country might be better off if families were smaller."

This 1980 text may be commended for stating that increases in food production "have more or less kept pace with the growth in population." However, the major gains in agricultural productivity in the West are misleadingly described as occurring "throughout the nineteenth century and into the twentieth." Improvements are said to be subject to the law of "diminishing returns," without reference to the fact that major scientific research on tropical agriculture dates only from World War II. A graph shows a 2000 world population of 6 billion but food only for 4.5 billion (the same as today). Apart from the reference to diminishing returns, the projected post-1980 stagnation of food supply is not explained.

Silver-Burdett's This is Our World (65) is a highly personal textbook with a strong theme of nostalgia for the pre-agricultural past:

> An uncrowded world. Why, do you suppose, was there always more of everything? I can think of four reasons. First, the hunters and collectors had the place to themselves....Second, there was no surplus population....Whenever a group grew too big for its hunting

> territory, all it had to do was look around....[Third], nobody took more of anything than was absolutely necessary....[Fourth], there was more of everything because they tinkered with the land only as much as was absolutely necessary to make sure of their survival.

This idyll altered with the introduction of farming, which "led to 'uncertainties and hazards' and, in the long run, destroyed the harmony of land and life that had grown up...over many thousands of years."

On population, this text says, "Recently some countries have begun to slow down their population growth. These include the United States and most European countries." The teacher's edition instructs: "Write on the chalkboard the following quotation from Paul R. Ehrlich's book, The Population Bomb: 'While you are reading these words, four people will have died of starvation. Most of them are children.'" Students are to compute annual starvation deaths on the basis of four per thirty seconds.

Later, This Is Our World indicates that the planet has 10 billion acres of cropland and may be able to add 3 billion more. Confusing cropland with total land, the author spells out the supposed implications of these figures. In a century, 12 billion people

> ...will be trying to crowd themselves onto about 13 billion acres. Of that amount, 12 billion acres will almost certainly be needed for crop raising....We assume that at least five-sixths of [the rest] will be needed for factories, transportation facilities, offices, shopping centers, and so on....That will mean that the average lot available to each of your grandchildren for building a house will be just about the size of a two-car garage.

Another relentlessly pessimistic textbook that treats population and food at some length is Allyn & Bacon's 1981 geography (6). Although its dire statistics are not the most inflated--e.g., "We are told that perhaps half the world's people suffer from hunger most of the time."--headings such as "Threats to Humanity," "Famine Throws a Shadow Over the Earth," and "Blueprint for Disaster" make a mockery of their unit's overall title, "Toward a Better World." The book ends with a section on the threat of nuclear war. Immediately preceding this, the "Blueprint for Disaster" section features a world hunger map with accompanying rhetoric:

> You may have read about "four giant horsemen" galloping across the face of the earth. One stands for Famine, the second for Disease, the third for War, and the fourth for Death. Today these "four giant horsemen" are galloping more swiftly than ever before. Some people say it may already be too late to slow them down. But many, many others still do not see the danger.

Speculation on the future is avoided by Houghton-Mifflin's Geography (35), although it provides an up-to-the-present J-curve population graph. Like several others, this text has a world map showing country differences in calorie and protein sufficiency. (These maps vary--notably on China.) Discussion of the population-food relationship focuses on India and is of mixed quality. It is true that India's food production "has doubled in the last twenty years"; not true that "India has continual food shortages because population growth outstrips agricultural production." A chapter on world food supply is cursory, and there is no attempt to teach demographic basics. Because this textbook is superior in other respects, we wish its authors would strengthen their sections on population and food. Their relatively simple prose (unlike most) is a pleasure to read.

Another good textbook that treats food issues at moderate length is Prentice-Hall's World History (52). Atypically, this book cites a source for its statement that "one out of every eight people suffers from malnutrition." It adds, correctly, "There was enough food grown in the 1970s and early 1980s to provide an adequate diet for every human being. The problem was the unequal distribution of food and people." The "green revolution" is treated in an acceptably balanced way. Unfortunately, instruction on population trends is limited to the ubiquitous J-curve graph, accompanied by the statement that "Population growth has acccelerated in many parts of the world." Again, this text has a 1983 copyright date.

HBJ's American Civics (19) is the only textbook in its subject area to cover population and food issues at moderate length. Actually, the coverage is brief by line-count but it is spotlighted by the reinforcing context of a full chapter on LTG issues. This chapter is entitled, "Saving the Earth," and is weak on substance although sound in such facts as it offers. A reasonable projection of the world's 2000 population is followed by rhetorical questions: "Where will these people live? Where will the resources be found to provide for them all?" A reasonable U.S. population projection is treated in the same way: "Where will all these people live? Where will we find the resources to provide a high standard of living for so many people?" The text notes that half a billion people "suffer from starvation each year," despite food aid to "many nations because they cannot feed all their people." The student is informed that such concerns "have brought many Americans to favor zero population growth."

The most extensive discussion of population-food issues among the economics texts can be found in Houghton-Mifflin's The American Economy (34). Although this text, like Prentice-Hall's (49), tops the range in level of difficulty, it has a uniquely simple and effective graphic representation of the difference between arithmetical and geometrical growth rates. Its J-curve graph is embellished with an arrow at the peak, implying ever-upward. Apart from this, its use of graphics is informative and attractive, contrasting to the bleak message of the prose. A Malthusian view of population-food trends is encouraged

by name. "Some demographers," the student is warned, "speculate that the time may come when there will be a shortage of food supplies even in the United States." Returning to the population theme in a later chapter, the authors quote a State Department official who described the expected 1980-2000 world population increase as "the equivalent of adding...more than twenty new countries the size and poverty level of Bangladesh." The "green revolution" is cursorily noted as an event "of the 1960s."

The book concludes with optimistic passages for which the student has not been prepared: e.g., "In the world, and in the United States, a smaller percentage of the population faces hunger or severe poverty than at any time in history"; and, "Economic conditions will get better through the world....Living standards will continue to rise in the developed nations. Several developing nations will become developed and others will continue to move ahead." From the context, this farewell message appears to be an editorial addition, but we have not checked this.

c. Textbooks With Brief Coverage: Commentary

The textbooks described above deal more extensively with population and/or food issues than others in their subject-area category. However, even among these texts, what is notable is the rarity of motivation to provide solid, substantive instruction on topics that have loomed very large in concern about the world's future for a generation. Texts with a lesser line count also vary in this respect. Globe's 1983 world history (17), for example, uses its space for passages like the following:

> Is there a limit to the number of people who can live on our planet? Scientists have discovered that when they put two mice in a cage, they get along well. When twenty mice are put in the same cage, they begin to fight each other....Is the population of our earth reaching the same limit?...If the same rate of growth continues, the population of the earth will double in the next thirty-five years.
>
> Do you believe that all people have a right to enough food, clothing, and shelter to live comfortably? Is this one of your values? Would you eat less and spend less if it meant more food for a starving person thousands of miles away? If you had a lawn or garden, would you give up fertilizer so that farmers in Pakistan might grow more food?

By contrast, Rand McNally's 1976 geography (53) communicates at no greater length a range of expert estimates on the "upper limit" of future population; the principle that population stabilizes when births and deaths are equal; the fact that a larger population can be fed by wider application of existing agricultural practices; the hope that the "cultural stage" of population stability will be reached

sooner rather than later; and the observation: "We need space as well as food. The quality of life is important."

Even the "minimal" texts are not wholly free of internal contradictions. Scott Foresman's 1982 world history (62) declares in consecutive sentences, "Every day during the 1970s, about ten thousand persons died from malnutrition [i.e., 3.65 million a year]"; and, "Each year more than 30 million children under the age of five died of starvation." Apart from the uniform failure to mention that the world's population growth rate has been falling,* the minimal texts have varied faults. Where statistics are cited, they are often wrong or misleading. For example, both the 1977 and 1982 editions of HBJ's American history (24, 25) say that world population "has been doubling nearly every 35 years"; and Prentice-Hall's civics text (48) gives an estimate that "in the latter half of this century, the world's population will double every thirty years." Several texts parrot the two-thirds figure for nutritional deprivation (43, 25). There are also some distortions on the bright side. Surely it is misleading to say that "China and India have practically conquered hunger" (8), or that population "has already stabilized in the developed world" (49). Likewise, a reference to "millions" as lacking an adequate diet seems inadequate to make its message.

The dearth of coverage of world population-food trends in American history texts supports the contention that these courses lack a global perspective. However, discretion may be the better part of valor on the part of authors who are not expert on these topics. These subjects matter. It is an appropriate function of basal textbooks in the social-studies area to give students the data and concepts to understand them better than their parents do. If only minuscule numbers of Americans can expect to have a personal impact on Third World trends, all need the knowledge to judge national policy alternatives and the politicians who espouse them. Yet only one textbook indicates the existence of a food-aid policy issue to the point of quoting individuals holding contrasting views, and it provides no substantive basis for evaluating the pro and con policy positions (38a).

By and large, the textbooks that treat these topics briefly are venting the personal concern of authors who are not well-informed. The typical result is the anxious vacuity of passages like the following:

> Many people continue to be optimistic....As the population increases, they believe, scientists will discover ways to produce new kinds of foods,...water will be taken from the sea and purified, and high-rise apartment buildings will house thousands of people, permitting more people to live in less space. But others wonder whether answers to continued population growth can be found. (29)

---

*One 1983 text alludes to a slowing of the birth rate "in many parts of the world." (4)

> How do you think the needs of increased world population can be satisfied? Do you see any changes in life style coming? if so, what are they?...What do you think happens when people feel that the means to attain their goals are blocked? (47)

> The declining U.S. birth rate should have beneficial results for the environment....Much of the earth's pollution is due to poor agricultural methods in areas where overpopulation requires every inch of soil to be tilled. The result is erosion and dust storms. Hungry people must be fed. And hunger may be the biggest source of world friction in the coming decades. (33)

> In some countries such as India, Bangladesh, Mexico, and Brazil, the population is increasing so fast that their farmers cannot produce enough food to meet the needs....Because a growing world population continues to strain our world food supply, new ways to increase food production must be found....One is to cultivate new croplands. The other is to make better use of existing croplands....New land that is good for growing crops is scarce. Can we produce enough food to catch up with the needs of a growing population? Can we increase food production and still protect our environment? (3)

To read such passages and know that they may represent a high school student's most authoritative exposure to population and food topics must be enormously frustrating to experts on these subjects--almost as frustrating as reading most of what passes for extensive coverage.

3. Energy and Other Resources

a. Overview

Forty-eight textbooks deal with the subject of energy; nearly half of these devote more than a few paragraphs to it. Thirty-three cover other mineral resources, some in combination with renewable resources. We classify fourteen of these as providing more than minimal coverage. In contrast to their neglect of population-food topics, eighteen of twenty-one U.S. histories note the energy topic, and nine treat other mineral resources, typically by analogy.

As was indicated in our somewhat utopian definition of review criteria, "adequacy" of treatment is more difficult to specify for energy-resources than for population-food. Our position is that basal textbooks should, first and foremost, be telling students how things work, or why they don't work. Where this is not fully understood--e.g., the causality of "demographic transition"--they should be scrupulous about historical fact.

For minerals, historical fact is an inverse relationship between demand and price relative to U.S. wages (and usually to other prices). In "real" terms, minerals have generally become cheaper over time, despite explosive increase in demand. To be adequate, a textbook should state this and at least try to explain it. This is very rarely done. Let us indicate three deleterious consequences: An important dimension for understanding the 1970s' rise in oil prices is omitted. The notion that all minerals have been and will be subject to rising prices is encouraged. And the several texts that allude to the economic problems of LDCs that export raw materials are trapped by a false paradox: how can it be that these countries are suffering from disadvantageous terms of trade if the market prices of their minerals are soaring?

Not surprisingly, economics texts are the most likely to define "resources" in the complex terms we consider necessary for adequate coverage--not only the raw material in the ground but also such factors as capital, technology, labor, skills, infrastructure, competition, demand. This practice, however, is not uniform in the economics texts, and it sometimes is utilized elsewhere, notably in Prentice-Hall's civics text (48), where all the specified components of a resource are gloomily declared to be scarce.

To be adequate in teaching about resources, a text should also cover political considerations. Textbooks that focus on the energy crisis, like those that don't, sometimes fail to do this (while also scanting or ignoring economics). Contrary to our expectations, governmental regulation of U.S. oil and gas prices is ignored by the history texts. Often the treatment of energy follows a formula in which the energy crisis is covered reportorially, some estimate of a date for "running out" of these fuels is cited, and capsule description of alternative energy sources is provided.

As noted earlier, the handling of energy reflects a greater pressure for a fact-based, analytical, and balanced presentation than the handling of other LTG topics, but this is very much a relative distinction. To many authors, teaching about energy is less important than its use as a vehicle to preach a more ascetic lifestyle, reinforced by dark warnings that energy shortages are merely the beginning of a permanent condition of materials scarcity.

This frame of reference may explain why so few texts make the elementary distinction between global scarcity of a mineral and vulnerability to import cut-offs. The generalized desire that Americans be more abstemious takes precedence over preparing students to analyze the policy issues that will confront them as adults. As with the population-food issues, moralistic intent supports disregard for normal canons of scholarship: statistics on "running out" of fossil fuels and other minerals are rarely communicated as a range of guesses; sources are not usually provided; essential definitional distinctions (e.g., between proven reserves and estimated recoverable resources) are rarely explained, resulting in some very foolish statements; and the absence of expert

review is sometimes painfully clear, as when Harper & Row's Faces of America (26) states, "Although oil is important, coal is our chief source of energy." (In context, this means current use, not reserves.)

b. Textbooks With Extensive Coverage

The most interesting textbook that treats energy at length is Addison-Wesley's Our Economy: How it Works (3). An innovative introduction to economics, this book is sometimes criticized for inadequacy in teaching economic fundamentals, but its particularized approach has been thoughtfully designed. It is fun to read, and presumably to teach.

The relevant chapter, "Energy for Economic Growth: The Story of Petroleum," has the strengths and weaknesses of the case study method. The subtitle is the subject; what the title promises is not delivered. The student is introduced to individuals: gas station owner, petroleum geologist, wildcatter, refinery worker. What can be taught by this method is effectively taught, and supplemented by a good historical narrative. The theme, "We use up a little more of the world's petroleum resources every day," is reiterated. Curiously, for an economics text, a great deal of emphasis is placed on the technological aspects of how things work. Recent manifestations of how prices work are ignored, although the historical supply-demand dynamics of price differentials among petroleum products are depicted in interesting detail.

A section on "The Future of Petroleum and the Alternatives" treats short-term alternative energy sources competently. A range of outlooks for petroleum supply "in quantities large enough to meet expanding needs" is indicated. A list of sixteen policy suggestions for reducing petroleum/energy use is provided for rating by students--e.g., increase the price of gasoline by $1 a gallon, raise driving age, lower pollution standards, ban Sunday driving. International aspects of petroleum's "story" are not covered.

A second relatively simple economics text, Laidlaw's Free Enterprise--The American System (39), provides a more comprehensive perspective on resources. Both texts employ complex definitions. Addison-Wesley refers to the "roles" of the individual, capital and savings, natural resources, and price. Laidlaw notes that resources "are normally divided into four groups. These are land, or natural resources; labor; capital; and entrepreneurship."

Laidlaw's definition, unfortunately, is not used to structure the treatment of resources. The central theme, established in the introduction to Chapter 1, is the economic concept of scarcity:

> In the United States we have an abundance of natural resources....Even so, when compared to our many needs and wants, our supply of natural resources is limited. Economics is concerned with the decisions

we make in allocating our limited natural resources to best satisfy our unlimited needs and wants.

The wealth of U.S. resources is reiterated later, with the observation, "But some countries that are rich in natural resources have yet to show any real growth." From topical juxtapositions in the text, it is clear that the authors are familiar with the LTG conceptual package, and more impressed by its end-to-growth message than one might expect from a text with "free enterprise" in its title. The book does not follow through on its introductory promise of an analytical approach to resources. The future exhaustion of resources is mentioned at least three times without elucidation. Despite a subsection on "Energy and the Future" that boosts solar energy, and an insert on automobile costs and gas mileage, this text falls in the category of extensive coverage without much substantive content.

Follett's geographies again make the longest try at providing substance. World Geography (11) introduces its superior unit on energy with a solid physics lesson and an explanation of the origins of fossil fuels. It provides a range on the petroleum outlook--"some experts say our known reserves will last only twenty-five or thirty years. Even if new wells are found, oil supplies may not last much longer than fifty years at the very most." Unfortunately, the meaning of "known reserves" is not explained, and both the concept and term, "running out" are used without dealing with price or its determining factors.

Under "Energy Options," World Geography provides brief, reasonable, factual treatment of just about everything but tar sands. Again, this text's graphics are very good. The third lesson, "Transition Into the Future," discusses "the breeder plan," said to be preferred in Europe, and "the coal plan," supposedly favored by the U.S. government. There is an odd insert, "A Futurist's View," describing self-sufficient communities of 3000 people. The intent of this item is obscure. A subsection covers conservation. The last word is: "Some futurists believe the world is capable of getting through the transition period by developing renewable resources. With such development, they say, the world will never have to worry about energy again."

The much briefer treatment of minerals ("Riches of the Earth's Crust") also begins with a physics lesson, defining element, mineral, and metals. The chapter is quite informative. Its LTG aspect is introduced by the statement, "In today's industrial societies, the use of minerals is increasing rapidly. The reserves of minerals in the world were once thought to be almost endless. Now people are not so sure of their continued abundance." The discussion touches on synthetic materials, recycling, improved extraction techniques, and studies to find out how to remove metals from sea water.

Our World Today (10) treats energy and minerals in a unit grimly titled, "The Worldwide Cry for Natural Resources." The term is usefully defined:

> Natural resources are the raw materials that people take from the earth and use to meet needs and wants. People themselves are a resource. Human resources include knowledge skills, and ability to work. People apply their human resources, or technology, to make use of natural resources.

This text provides the basics one expects of a geography, although its exclusively global perspective seems inadequate unless students go on to a course with regional details. Its coverage of energy supply trends and prospects is of mixed quality. An unreferenced graph depicts U.S. petroleum use rising steeply to 1980 (which is incorrect), nearly cut in half by 1990, and recovering much of the decline by 2000. Natural gas use is shown declining from 1970 on, and very steeply in the 1990s. No explanation of the graph is supplied. Other graphics are more useful, but why are sources not indicated?

The lesson, "Conserving Natural Resources for the Future," begins:

> Spaceship Earth may be in trouble. The number of passengers on board has increased. These passengers have consumed more and more of our ship's natural resources. The supply crew has informed us that some of our resources are running low. We must learn to use our remaining supplies wisely. We must learn to practice conservation...What can one person do...? Individuals can stop wasting the resources they use. We can help by recycling our mineral resources. ....Individuals can use less energy in their homes and for transportation.

The text mentions novel resource possibilities and concludes with an interesting section on minerals in Antarctica. These are difficult to mine, but some day "may help satisfy the worldwide cry for natural resources."

A third type of extensive coverage of energy-resources is found in Macmillan's modern world history paperback (43), which entitles its final chapter "The World Energy Crisis: 1973 to the 1980s." Although the chapter is mainly a run-down of the major countries' political history in this period, it also provides by far the most thorough coverage of the politics of oil in a global perspective, with some reference to economic impacts (a subject generally ignored by the economics texts). Students are informed that the oil crisis redistributed wealth, while worsening the economic conditions "of many already poor countries that need to import oil."

The authors state that "the oil crisis contained a hidden and unforeseen benefit: it made people in industrial nations suddenly conscious of the value of the world's natural resources and of their distribution, and, most importantly, their conservation." And they spell out the particulars of supposed profligacy:

> In the late 1970s many earlier and wasteful energy decisions returned to plague the industrial countries of the world. Trolleys and trains were less convenient than buses and cars, but they had run on less energy. Single-family suburban living was pleasanter than crowded urban life, but each suburban family needed at least one and often two cars, and their individual houses...were expensive to heat in the winter and cool in the summer. Labor-saving appliances saved labor, but again used costly energy. And while polyester clothing and plastics were convenient and easy to clean, both were petroleum-based products.

The text's last sentence brings the components of the "package" together: "But the increasing costs of energy forced many more people to rethink their priorities in life, to practice conservation, and to respect the world's ecology."

The sixth text classified as providing "extensive" coverage of energy and/or other resources trends is Silver-Burdett's This is Our World (65). This geography is very poorly organized. The treatment of these and other LTG topics is scattered through numerous chapters and much more occupied with preaching than teaching. This publisher's more conventional geography (66) shares these deficiencies but puts its first extended discussion of "Our Vanishing Resources" at the start of the book:

> Our metal-using, fuel-burning civilization is built upon a vanishing asset, the riches that have accumulated over hundreds of millions of years in the earth's crust....(W)e do not stop to think how new cars and thermostats are. Two or three generations ago, they did not exist. A few generations from now they may have disappeared. ...Every day our natural resources are becoming scarcer....We ought not to say to ourselves how lucky we are to live in this age of machines, power, abundant food, and comfortable homes. Rather, we should ask how long our luck will last.

Four pages later comes the first of numerous reprises on this theme: "However carefully they are managed, reserves will become smaller. And at some future day they will run out. Rising population and increasing demand will merely exhaust them more quickly." The doomsday motif persists in Chapter 8's informative discussion of "Minerals and Fuel," which states misleadingly that "the cost of mining is always increasing." The following statements are made about coal: "perhaps it will not run out in the lifetime of many of us"; "There is coal in plenty for a very long time"' and "The world's coal resources may not last more tha two centuries."

By contrast, the geography student who uses Follett's World Geography (11) will be told: "Experts say that at the present rate of use, our known coal reserves could supply the world with all its energy for almost 1000 years." Similarly bauxite, iron, and other minerals are

described in one text as scarce, in another as abundant. The use of raw-materials statistics is in general very poor.

Nevertheless, the chances are much better that a student moving through high school will pick up valuable information (as well as misinformation and indoctrination) on energy-resource topics than on population-food topics. This student may learn as much about petroleum technology as about energy economics from an economics text; as much about physics as about resource geography from a geography text; and more (although not much) about global energy economics from a history than from an economics book. But there can be desirable cumulative effects if textbooks that treat these topics fairly extensively are carefully selected.

c. Textbooks with Moderate-to-Brief Coverage

The preceding discussion indicates a mix that also characterizes the many texts that cover these topics at moderate length, with the addition that the formulistic approach to energy, mentioned earlier, is common in this class. The formula's detachment in discussing the energy crisis and energy alternatives is not the representative form of treatment; it simply contrasts to the prevailing indiscipline in coverage of other LTG topics, especially environmental problems.

The encouragement of pessimism is quite common. The behavioral objective for American schoolchildren is clearer than on the food issue, and it is usually stated in ethical terms--"We who live here should work to help keep the Earth a fine place for future generations."--rather than in terms of national security. (On the other hand, Follett's Our World Today has a wonderfully succinct sentence: "The more valuable the resource, the more important is the ownership.")

Ineptness in pursuit of the objective is sometimes conspicuous. What, for example, do the authors of Allyn & Bacon's The Western Hemisphere (9) hope to accomplish by the following passage?

> Think what would happen if petroleum and petroleum products were no longer available! All the service stations would have to close and automobiles and trucks could no longer run. Airplanes could no longer be flown. Most rockets would be grounded, too. Farmers would have to abandon their tractors. Many homes would be cold in winter months unless other fuels could be obtained. Electric motors, which are lubricated with oil and grease, would soon wear out. Synthetic rubber would no longer be available....Many plastics, ink, paint, asphalt, insect sprays, and weed killers could not be used.

Surely, there are more constructive ways to provide the substantive content of this paragraph, but the authors--unusually for this textbook--have succumbed to the urge to scare.

In one of Laidlaw's U.S. histories, this kind of overkill is provided by means of a long quotation (excerpted here) from an MIT scholar (38):

> 'My conclusion...is that world oil will run short sooner than people realize. Unless appropriate remedies are applied soon, the demand for petroleum in the non-Communist world will probably overtake supplies around 1985 to 1995. That is the maximum time we have....It might be less. Petroleum demand could exceed supply as early as 1983 if the OPEC countries maintain the present production ceilings.'

This quotation was five years old by the time the textbook was published; OPEC production had dropped sharply, yet a glut of oil had emerged. None of this is mentioned, much less explained, in this 1982 text. The teacher guide says, instead, "Point out that most travel and shipping would stop....Discuss...ways...to conserve."

Macmillan's American history (42) conveys its apprehensions in reportorial style:

> The oil crisis was met by various stopgap measures....But there was no rationing, and Americans were not compelled to give up their wasteful habits. The oil crisis made the public suddenly aware that world supplies of petroleum were running out. Unless a new source of cheap energy could be found, the automobile era was approaching its end. It was a time for serious long-range planning, but little was done.

This 1981 text is nearly unique in noting that U.S. oil imports have declined, but its outlook is bleak: "Having become accustomed to abundance and affluence the United States now seemed to face an age of diminished resources and economic uncertainties."

Other textbooks use the resource topic to promote denigration of the past, and a revolution in values. There is a hint of this even in an old favorite, Magruder's American Government (5), which asks students what has been the price of the nation's reluctance to follow Teddy Roosevelt's advice on the stewardship of natural resources. The teacher guide comments with apparent approval that "most students will likely define the price in terms of the present and future consequences of the irretrievable loss of much of the nation's forest resources, agricultural lands, and mineral supplies from short-sighted exploitation and wasteful use."

HBJ's civics text (19) is censorious:

> Americans have covered the land with cement and asphalt, buildings and highways. As the number of people grew, houses spread into the countryside where, often, precious farmland gave way to new buildings. To meet our demand for goods, mountains have been stripped bare for lumber and for coal, copper, silver, gold, and

> other minerals. America...uses much of the world's petroleum, natural gas, iron ore and other resources. This places a heavy burden on the earth's limited resources.

Allyn and Bacon's American history (7) encourages positive thinking following an ominous declaration that "the earth's resources may have reached their limit to provide for human beings":

> Shortages have suddenly appeared [in the U.S.] , as in gasoline, in heating fuel, and even in some foods as grains and meats...Yet, there are some who believe that America is in the midst of a profound change for the better....There is hope that Americans, by placing greater emphasis on the quality of life led--rather than on the quantity of goods owned--may lead happier lives in the years ahead.

Macmillan's geography (41) also pursues this theme:

> Optimists believe that the problem of resource scarcity can be solved....Perhaps by using technology, people will be able to locate new sources....Many people who have studied resource scarcity believe that simply applying more technology to the problem is not enough....According to this theory, we must learn to accept limits to growth. Instead of living by such mottoes as "bigger is better," we might consider, as some suggest, that "less is more" and that "small is beautiful." Smaller cars, lower thermostat settings, smaller houses, and smaller factories may be necessary. We must save the greater part of our energy resources for products such as fertilizers, which are necessary to ensure enough food.

This text has the rare merit of stating that resources "do not suddenly run out." However, its alternative formulation--"As the easily available deposits are used up, it costs more and more...."--is shaky historically. Despite the copious academic literature on this subject, only the student who reads Rand McNally's geography (53) will be exposed to any information on the historical trend in mineral-extraction costs.

A mainly moralistic emphasis also characterizes Laidlaw's second American history (38a). A change in "social awareness" is urged, meaning

> ...an end to wasteful consumption....In the years ahead many Americans may have to do without goods or activities that use scarce energy and materials. This may be needed to make sure that other generations will not be left without valuable natural resources.

A discussion question at the end of this section asks: "Why will it be necessary to alter United States society as the future approaches?" A later section, however, depicts resource scarcities as having a yoyo pattern. Shortages of raw materials "could lead to higher prices....Thus the price of goods and services could rise so much that fewer people could afford them. Once again, demand could fall and surpluses develop."

This text is also unique in associating surpluses and high unemployment with slower population growth.

We find little evidence of consistency in the products of particular publishing houses. Among the books we reviewed, Houghton-Mifflin's generally suggest an editorial philosophy emphasizing substantive instruction and a relatively optimistic outlook. By contrast, although a teacher might choose Prentice-Hall's 1981 American history (51) for succinct, informative treatment of energy, this should not be confused with the same publisher's 1982 American history (50), where the sole contribution to enlightenment on any LTG topic is:

> Raised on the gospel of progress, few wanted to be told that there were limits to the nation's capacities, powers, and natural resources; that they must lower their expectations and aspirations; that they would need to exercise self-discipline and be prepared to make sacrifices.

Nor should the merits of the Rand McNally geography's brief coverage of resources be assumed to extend to its American history (54), where the student will read:

> Americans would have to change their whole style of life before they could save the land and its resources. Few people seemed willing to give up the things that make life a little easier. Despite warnings of power shortages, Americans continued to buy electric air conditioners, can openers, pencil sharpeners, and even toothbrushes.

And the teacher who is deterred by the disorganized evangelical excesses of Silver-Burdett's two geographies should know that this publisher puts out two American histories that do not share this characteristic. (63,64)

However, our main concern about the textbooks' treatment of resources is the absence of the argument that dynamics that have operated favorably in the past--a point partially made by only one textbook--will probably operate favorably in the future. The desire to preach conservation, unexceptionable in itself, substitutes for establishing the continuities of raw-materials economics or reviewing the serious literature on future availability. As for the ethical dimensions, we find it disturbing that conservation of natural resources is the only form of responsibility to future generations that any textbook mentions.

4. Environmental Problems

a. Overview

There is not a clear-cut distinction between resource and environmental issues. For example, air and water can be treated under either heading. We classified 46 texts as covering environmental

problems. Only one did so extensively, and a dozen at moderate length. All but two of the U.S. histories at least touch on this subject.

Pollution is not part of the traditional domain of the geographies or any other social studies subject area. Two geographies have assimilated it under the larger heading of human impact on the environment. However, mainly it falls between the stools, so far as a sense of responsibility to provide useful information is concerned. Perhaps this is why its treatment illustrates what is worst in the "critical issues" approach to global trends.

b. Extensive Coverage: The Sole Example

The one textbook that treats human impact on the environment as worthy of extended attention is Houghton-Mifflin's geography (35). The model it pioneers starts with a unit entitled "People Change Earth." The term "biosphere" is introduced to describe air, land, and water: "Only within the narrow, delicate layer of the biosphere can life exist." Population and resource trends are reviewed in this context. Historical instances of deforestation are mentioned.

A subsection covers the ecological disruption in Borneo that resulted from use of DDT. An example of a mystifying change is the choking of the Congo River with water hyacinths--"How did the first water hyacinths get to Africa? No one really knows." The concept of a city as a "heat island" is discussed.

A subsection on "The Future of the Biosphere" notes that "some ecologists" think human activity will result in global warming, while "other ecologists" expect cooling. (The reference to both theories is unique among the textbooks reviewed.) We regard as irresponsible the use of a map showing the flooding effects of a 100-meter rise in sea level, in relation to a textual reference to a two or three degree rise in world temperature. Otherwise, the unit is a good model for other geographies. It concludes with an explanation of Garrett Hardin's concept of the global commons, and the issue of responsibility for shared necessities.

A later chapter relates the "biosphere" theme to the United States, starting with the example of the passenger pigeon's extinction. Subtopics include "Plowing the Grasslands" (the Dust Bowl), "Cutting Down the Forest" (problem and response in the Tennessee Valley), "Using Freshwater Supplies" (reducing pollution in a lake near Seattle), and an example of tradeoffs between environmental and economic values. The chapter also considers the waste of resources. Several statistics are cited, including (presumably tongue-in-cheek) that wasted glass would provide 1500 juice glasses for every man, woman, and child in the world. The concluding subsection is entitled, "There Is No Such Place As Away."

A final chapter, the last in the book, "Protecting the Environment," includes a balanced treatment of successes and challenges. It concludes

with a Herblock cartoon, used to teach how to "read" political cartoons. We do not agree with everything this geography says, but nothing else is remotely comparable in the combination of unique length with good organization, interesting examples, and balanced approach. This text's treatment of resources is also very good, including the novelty of a chapter, called "Human Resources," which uses Japan, Israel, Singapore, and the Netherlands to show what human intelligence, energy, social organization, and aspiration can accomplish in a country poorly endowed with raw materials.

c. Textbooks with Moderate-to-Brief Coverage

Our main purpose in this section is to create appreciation of the pervasiveness of intemperate and/or superficial treatment of environmental problems in the textbooks. Our means is an avalanche of quotations, without preliminary commentary, except to note what the examples cannot communicate--the great rarity of any kind of "balance" to what is quoted:

> Without the winds that keep most of this "fallout" [pollution] from actually falling into the layer of surface air we breathe, every man, woman and child in the world would be dead or dying. (65)

> "By The Way--The Next Ice Age"--Even a slight cooling of the earth... could greatly reduce food harvests in the Northern Hemisphere. We need all the food we can raise to feed the world's population. Until recently, most scientists thought the great glaciers were still retreating. Now they are not so sure. Maybe the ice is starting to advance again. (59)

> It is even possible that the buildup of carbon dioxide in the atmosphere may reduce the heat of the sun. That could mean the end of everything we value in modern civilization. //* We are playing a game against our environment. The stakes are high--no less than the survival of the human race....Do we have any "plays" that nature cannot block? Can we ever win this grim game with our environment? (66)

> In heavily populated areas, forms of land, water and air pollution are increasing to dangerously high levels. (10)

> Modern societies destroy the habitat at an alarming rate....Coal smoke can...even cause global temperatures to rise. Poisonous chemicals dumped underground can seep through the soil into water supplies to threaten whole populations....Jacques Cousteau...believes that the oceans have become permanently polluted from oil spills and industrial wastes. If this is so, ocean currents can carry

---

*This symbol is used to indicate substantial separation of the components of the quotation.

that pollution to every corner of the globe. Equally frightening is the possibility of the worldwide spread of disease...(R)esearch in biochemistry could release or create certain viruses or bacteria for which no cure is known. In the interconnected world of today a disease can spread as fast as a jet aircraft can carry passengers. // The clearing of the Amazon rain forest...may reduce a major source of oxygen for all living things everywhere. (41)

During the 1960s ecologists began to examine different aspects of industrial life and warned that any change in a given feature of the earth's environment caused other changes. (43)

For the first time in history we have had to live with the possibility that all human existence could be ended as the result of a nuclear war. For the first time, too, we have begun to understand that natural resources, even air and water, are limited and that humans could destroy themselves by polluting their environment. (60)

Some rivers and lakes had become so polluted with industrial waste that fish could no longer live in them. Some foods had become dangerous to eat because of the indiscriminate use of lethal chemicals. The air had become filled with poisonous fumes from automobiles, and smoke covered some cities like a grey shroud. It often seemed a war was going on between humans and nature. Increasing numbers of people realized that--in the end--they would not be the victors. (47)

Clean air in many cities had been replaced by smog. Some rivers had been turned into virtual sewers...Fertile farmland had been bulldozed to build highways and housing developments. Much of the once beautiful American countryside had been destroyed....Moreover, pollution may involve still deadlier hazards....The contamination of the oceans could eventually alter or even destroy nature's global life-support system. (25)

"One Last Chance"--...And local, state, and federal governments began to consider limiting the use of automobiles as another way of halting pollution. [This text includes a 1920s Don Marquis poem with such lines as: "It wont be long now it wont be long/til earth is barren as the moon."] (54)

They were shocked to learn that pollution of the atmosphere might one day threaten human survival. // Ten years after environmentalists celebrated the first Earth Day, it was becoming clear that the United States was paying a heavy price for technological achievements. Unusually high rates of cancer, leukemia, miscarriages, and birth defects were noted in communities near nuclear testing sites, chemical dumps, and areas sprayed with certain pesticides and herbicides. The Environmental Protection Agency counted over 30,000 toxic waste dumps across the country. (27)

Ugliness, junk, clutter, and noise scream for attention. What solution is there to "too much" of everything? // While billions were spent on the moon shot and the war in Vietnam, problems of public life mounted. The United States, like other industrial countries, was plagued by pollution of the water and the air, by a pressing need for more parks, schools, playgrounds, hospitals, by a decline in public order and safety, and by hideous graveyards of abandoned cars. // Strong regulations protecting our national resources and controlling pollution may be needed to avert a possible ecological disaster. Yet industry sees such measures as being too restrictive. (28)

Do you do anything to cause pollution in your environment? If your family's automobile polluted the air, would you be willing to do without it? (17)

Changes in the makeup of the air, some scientists say, are changing the earth's climate. Harmful gases and tiny particles of foreign matter are increasing in the upper atmosphere. When the sun's rays strike these particles, the rays are scattered back into space. It will not take long, these scientists say, for this process to cut down the amount of sunlight that reaches the earth. The effect of this will be to reduce plant life and, eventually, to threat all life on earth. // The cure for water pollution is to rid water of all impurities before it is returned to streams and lakes. Such purification is costly. (19)

"The Quiet Crisis"--There were people who deplored the billions of dollars and thousands of top-flight minds employed in sending men into space. All this effort might have been devoted to what Stuart Udall...called "the quiet crisis." Americans fouled their environment with sewage, junkyards, dumps and strip mines, while phosphates and detergents, along with industrial wastes, contaminated their water....Most former pollution--sewage, garbage, paper, and iron junk--was biodegradable....But an alarming fact about new forms of pollution--cellophane, plastic containers, aluminum cans, and lethal hydrocarbons such as DDT--is that they are absorbed with difficulty, if at all. The messes they cause get worse and worse. // There is increasing awareness that human beings, especially affluent human beings like the Americans, threaten to make the earth unlivable. (42)

"Will the Earth Remain Livable?"--This is not an imaginary danger. On more than one day in the past few years, residents with lung problems in some of our major cities were warned by local health authorities against strenuous exercise because the air was badly polluted. Scientists have discovered that certain widely used chemical fertilizers lower the long-term fertility of the soil. And we do not yet know how to dispose of our steadily increasing waste material from nuclear power plants in complete safety. There are suspicions that ordinary aerosols, such as we find in

spray cans, may destroy the ability of the upper atmosphere to shield us against the harmful rays of the sun. And some scientists fear that the growing amount of heat generated by industrial processes may change the earth's climate with potentially catastrophic effects." (20)

The problem of pollution is not confined to the United States. The globe is covered with a belt of filth, and as the earth travels it picks up additional millions of tons of pollutants. Some scientists estimate that the average temperature of this planet will rise by seven degrees within twenty-five years due to the blanket of air pollution which keeps heat from escaping into space. This "greenhouse effect" will result in some melting of polar ice caps.... (T)he sea level will rise dangerously. It would not take much of a rise to completely flood large sections of this country. (46)*

Population growth has also affected our environment. Forests, farmland, and other "green areas" are fast disappearing. More and more land is being taken for roadways, factories and shopping malls. Population growth and widespread automobile use have led to air and water pollution. These are a threat to the life and health of the people. (16)

"Threats to Humanity"--Today, in Yokkaichi, Japan, school children wear gas masks while at play. Lake Erie and other lakes in the United States are so polluted that most of their fish have died. In all the great cities, gases and acid vapors are attacking stone buildings. (6)

Studies have revealed the delicate balance that exists in nature and how easily this balance can be upset. (52)

Scientists mentioned that the gases used in spray cans could eventually destroy a shield of protective elements surrounding the earth. (32)

Industries, governments, and individuals continued to pollute as though they believed living space to be unlimited and the environment indestructible. The long-range economic and social costs of this neglect are impossible to predict. (34)

d. Commentary

There are outright errors in the foregoing: CO_2 does not have a cooling effect on the climate; and cutting down rain forests does not reduce the supply of oxygen in the atmosphere, since the rot on the forest floor is estimated to consume as much oxygen as the foliage respires. More common is "hype" and distortion, the absence of restraint

---

*Quoted in introductory section.

that permits a text to reprint a Chicago Tribune article stating that "bacteria immune to any antibiotic" had been found in an ocean garbage dump. (59)

Lurid or grim depiction of environmental conditions is sometimes linked to castigation of the past. A review exercise with which one American history (24) concludes is: "Pollution of the land and water and misuse of resources began with the first European settlements in America. Explain."

In other texts (or the same ones) the student is encouraged to believe that serious pollution is new, as well as worsening. With the exception of a section in a Prentice-Hall text (51) on pollution in Chicago in the 1890s, no historical perspective on urban or any other kind of pollution is provided. No textbook discusses the era when foods really were being "indiscriminately" adulterated with "lethal chemicals." None mentions the events culminating in the establishment of a Food, Drugs, and Insecticides Administration in 1924. Some convey an impression that history, in this respect, began with Rachel Carson.

Few textbooks make any reference to progress. Addison-Wesley's American history (1) states: "While oil slicks, irresponsible industrial-waste disposal, and smog were by no means eliminated, there was a significant decline in auto exhaust emissions and the methods for disposing of sewage and manufacturing wastes began to improve." Scott Foresman's People on Earth (61) balances a warning that "the entire earth is covered by a veil of pollution" with the admission, "air quality in some parts of the world is getting better. However, much more needs to be done."*

Elsewhere, indoctrination almost always takes precedence over substantive instruction. Some authors are out to scare. Others use allusions to serious problems and catastrophic possibilities to add spice to their distaste for the products of mass affluence. The myth that most Americans used to live in city apartments surfaces in this type of text. One would never know from the textbooks that four-fifths of all nonfarm U.S. housing units built during the heyday of apartment-house construction were in dwellings with one or two units, or even that it was not until 1920 that half of Americans lived in places with 2500 residents or more.

The theory that loss of prime farmland is a significant effect of suburbanization is hotly disputed among scholars, and is entirely

---

*This is from one of a number of inserts on "People Change the Environment." One (not quoted) on the destruction of rain forests is deficient, but the concept and much of the implementation bear comparison with Houghton-Mifflin's geography. Unfortunately, the inserts are scattered through the text, making it difficult for the teacher to use them for a coherent presentation.

untrue in many parts of the United States. No textbook mentions this. Whether the subject is farmland or "green space," the tone is pontifical:

> Fertile land was being bulldozed to build highways, shopping malls, and housing developments. Irreplaceable farmland was vanishing at an estimated rate of 10,000 acres every day. (24)

> 'Every twenty-four hours more than 3,000 acres of green space are lost around the cities in this country. Every year this adds up to at least a million acres....Its place is being taken by housing, schools, businesses, industries, roads, highways. We need these, of course, but not all that are being built.' (61)*

Housing may be in crisis from the viewpoint of the record numbers of Americans who are reaching home-buying age each year, but it has not been assigned the dignity of a "critical issue." Because both pollution and energy are honored with the label, tradeoffs between these occasionally conflicting policy objectives are discussed in some textbooks, although not with much use of the incisive examples that abound. However, the economics of pollution control as a policy issue is virtually unmentioned. Numerous textbooks simplistically allude to "curing" or eliminating pollution. None deals in marginal costs or cost-benefit computations, although the concept of diminishing returns is crucial to understanding the continuing debate on regulatory standards. Nor does any text mention policy alternatives, such as "pollution vouchers."

The idea of eliminating pollution, like the idea of "running out" of resources, is an unacceptable generalization if one's goal is substantive instruction. Unfortunately, even the thought that this should be the goal--or a goal--is rare.

5. Economic Development

a. Overview

We are mainly interested in the depiction of global economic conditions, trends, relationships, and prospects, but also in statements about the U.S. economic future. Thirty-five textbooks merited inclusion. Of these, nineteen were classified as providing more than brief coverage. Curiously, only two of the economics texts were deemed to provide "extensive" coverage; these were the two most difficult texts: Prentice-Hall's The Economic Problem (49), and Houghton-Mifflin's The American Economy (34). Several economics texts avoid the subject of international economic relationships entirely.

Overwhelmingly, the strongest finding of our review of this topic is the prevalence of "gap" imagery as opposed to "spectrum" imagery. The following list of examples is not complete:

---

*Quoted from another source without specification.

The many "have not" countries contrast strongly with the few "have" countries. (61)

"A Great Gulf"--Never before in history has there been so wide a gulf between the most advanced peoples and the least. (66)

"The Widening Gap"--The gap between rich and poor nations is widening (see graphs). [Note: the graphs do not document the point.] (37)

The world in 1973, economically speaking, was divided in two: a few rich industrial countries and many more poor developing nations. // The gap between rich and poor countries was wide. (43)

...the growing differences between rich and poor nations. (8)

The gap between rich and poor countries widened....Some Third World countries were worse off in 1980 than...in 1970. (62)

And the gap between the rich...and the poor nations grows wider all the time. (47)

"The Gap Between Developed and Developing Countries" (13)

...the gap between the rich, industrial countries and the poor, under-developed nations was becoming steadily wider and deeper. (25)

...split between the developed nations which used so much of the earth's resources and the "underdeveloped" or "developing" nations. (14)

Both absolutely and relatively, the gap between rich and poor grew wider. (34)

Approximately 130 countries are referred to as developing nations.... In spite of the different names used to describe these countries, they all have one thing in common: abject poverty. (58)

The developing nations of the world have one thing in common: poverty....(T)he gap between the "have" and the "have-nots" becomes even greater each year. (46)

The population explosion has helped increase the gap between rich nations and poor nations. (52)

This list omits texts that make the point only indirectly--for example, by hyperbolic estimates of humankind's malnourished fraction. It also excludes a text that contrasts today's income inequality to

ancient Mesopotamia, where the gap between poor and rich is said to have been merely between owning one slave and owning twenty. (65)

What is said in some texts is, in part, noncontroversial. Throughout the industrial revolution, the difference in economic status between the richest and poorest countries has been widening. The per capita GNP or income that qualifies as very poor today was universal two hundred years ago. A second noncontroversial point is that gaps between rich and poor have been widening in many LDCs. Widening income inequality is not usually thought to apply to some, such as China, where one billion of the world's 4.5 billion people live. On the other hand, intra-country "gaps" are beyond question much more pronounced than the skimpy statistics indicate, since there are no figures on non-monetary "perks" such as status and access to good housing, cars, or advancement for one's children.

Intra-country income disparities can be associated with the wealth-generating process of industrialization itself. It would be dubious to contend that the process of industrialization requires a stage where economic incentives produce a radically widening gap between some and most, but no textbook makes this dubious point. Intra-country or globally, gaps are depicted as bad. Few textbooks venture to state, even with the protection of "some experts think" phrasing, that gaps serve constructive functions, although this is obviously correct. The development of poor countries gains from technology transfer, capital investment, markets, and educational opportunities provided by others. And the proper question about intra-country gaps is probably which kinds are effective in promoting economic growth. Nowhere is this perspective employed.

However, an equally important point, as noted in our criteria, is that the concept of a gap is inferior for describing international relationships in recent decades. In this report, we have deliberately used the term LDCs (less developed countries) rather than the recently preferred "developing" countries. Some countries are not "developing"; others have high growth rates. Within the latter group, a few are essentially city-states with a rather small population; the rest have great disparities in what their growth rate means.

Granting the necessity to simplify these and other complexities in textbooks, it seems obvious to us that the appropriate simplification is a continuum or spectrum rather than a dichotomy. Yet many texts do not mention a middle group of countries at all.

b. Textbooks with Extensive or Substantial Coverage

Follett's more elementary geography (10) has a good descriptive treatment of First, Second and Third Worlds, taking care to note that all Third World countries are not poor. There is also a simple explanation of economic systems. This publisher's other geography (11) has a sound discussion of the industrialization-affluence relationship. Neither of these texts uses "gap" imagery, nor does Houghton-

Mifflin's geography (35), which provides a world map showing levels of development, and encourages a view that growth is desirable.

Globe's geography (18) is one of two texts that quotes an extended statement written by Robert Heilbroner in 1963, dramatizing world poverty by describing:

> '...how a typical American family...could be transformed into an equally typical family of the underdeveloped world.... Everything goes: beds, chairs, tables, television set, lamps.... We will permit a pair of shoes to the head of the family, but none for the wife or children....The box of matches may stay, a small bag of flour, some sugar and salt. A few mouldy potatoes, already in the garbage can, must be hastily rescued, for they will provide much of tonight's meal.
>
> ...Now we take away the house. The family can move to the toolshed....And still we have not reduced our American family to the level at which life is lived in the greatest part of the globe....'

In this text's separate regional sections, it uses a standard format to compare other parts of the world with the United States. This display confuses per capita income with average earnings. Peculiarly, the United States figure is thousands of dollars different in one of the displays from the figure in others. Although the rich-poor theme is emphasized, there is an odd departure from it. A black man is shown washing a car in the section on Africa. The caption says: "In Africa today, Western comforts are part of the daily life of many. How may problems result when people try to combine their traditional ways with the ways of Western countries?"

Promoting gap imagery, Silver-Burdett's more conventional geography (66) goes on to inquire: "These two societies, the developed and the developing, live side by side on this earth. How long can this gulf continue to exist between them?" A chapter on "Rich and Poor" presents a pro-development position. By contrast, this publisher's other geography (65) is strongly anti-development in most of its text. The author states that "the gap between poverty and riches has grown steadily wider and harder to bridge through the years." This is the text that refers to differences in slave ownership in Mesopotamia to demonstrate its point.

Despite its spurious graphs on the "widening gap," Houghton-Mifflin's world history, Unfinished Journey (37), has a superior treatment of the economic conditions and problems of LDCs. By contrast, Scott Foresman's History and Life (62) repeatedly emphasizes the gap. The question, "Why did the gap between rich and poor countries grow wider?" is answered in the teacher guide by reference to the text statement: "As the wealthy countries grew richer at an increasingly faster pace, the gap between them and the Third World widened." The poor countries got poorer, that is, because the rich got richer. (In practice, the rich got richer

and the poor got richer.) In a variant employed by several texts, the poor grew poorer because the increase of food supply lagged population growth, an erroneous generalization noted earlier.

Very few textbooks invite any skepticism about the statistics. An exception, Merrill's economics text (46) follows its allusion to the gap with the warning that "our concept of the poverty which exists in other countries is sometimes distorted." For example, India chooses to feed grain to sacred cows "while thousands of its citizens may be starving." Houghton-Mifflin's The American Economy (34) warns that:

> Figures for per capital GNP can...make the gap between rich nations and poor nations seem even greater than it is....One economist has pointed out that the average American or western European spends more that $140 just in commuting to work. If the average person in India could actually buy only what $140 would buy in the United States, clearly he or she would not survive. It is very difficult to determine..."purchasing power GNP."

Although ruled out for most high school classes by level of difficulty, this textbook should be mentioned for having the most extensive treatment of the developing countries' economies, with a chapter on the subject plus a seven-page insert (with footnotes, for a change). It uses "gap" rhetoric, but also emphasizes the differences among developing countries--"compared with Bolivia, India, or Sudan,...Mexico must be considered a nation with a developed economy." This text also uses a World Bank breakdown of developing countries into three groups, and quotes a publication from the World Bank that describes economic progress in "eyeball" terms that a high school student can understand:

> 'evidence...available to the naked eye in the form of better-fed and better-dressed school children; more radios and bicycles and clinics; buses patronized by persons who previously trudged along on foot; trucks laden with things previously carried on their backs and heads.'

This text, pessimistic in its view of the future (except in the concluding section that appears to have been grafted on), provides a unique pro-con summary of the U.S. role in the world economy:

> Critics of the American way of life often point out that the United States, with only 6 percent of the world's population, uses almost 33 percent of the world's resources.* Its defenders point out that the United States also accounts for one-third of the world's production (as measured by GNP)....Americans do not live well at the expense of other nations [according to defenders].

---

*We did not tabulate this kind of statistical statement, but it is probably as common as the "gap" statements with which it overlaps.

> But people in many lands would live less well, and many would starve, if the United States produced less.

The text also notes that many LDCs have had "growth rates much higher than those of the developed nations." It distinguishes LDCs with widening income inequality from those that had broad-based income gains as well as a tripling of per capita income between 1950 and 1975.

The more elementary texts could pick up some pointers from this one. Instead, most limit their coverage to a picture that seems calculated to shame, frighten, and alienate the student. Equally important, of the two basic ways to present poor statistics, they choose the one that is less appropriate for depicting trends since World War II. This practice needs review before additional textbooks adopt a global perspective on economic trends.

c. The Outlook

Do the textbooks encourage an optimistic or a pessimistic view of the long-range economic outlook? The answer, unquestionably, is that most encourage a pessimistic view. This follows indirectly, in most cases, from what is said separately about the LTG topics the authors choose to treat: incorrect information on the population trend; magnified statistics on malnutrition and hunger; shallow rhetoric on "running out" of resources; overheated depiction of pollution trends; and the use of statistics (correct or incorrect) on the very poorest countries to characterize the entire Third World.

The optimism-pessimism question obviously cannot be dealt with adequately without considering the LTG issues as a "package," as is done in the following section. However, it is also worthwhile to take the economic outlook narrowly, because there are pronounced differences in how textooks handle it. Rand McNally's geography (53) is unique in its consistently "traditional" approach to the economic challenge: "Poverty and ignorance offer opportunities for Communist and other kinds of dictatorship to spread. Therefore we have a vital interest in speeding the development of the low-income countries." The text adds, "the truly democratic way of political life, coupled with a high degree of private enterprise in economic life, has the best record of any system in providing both freedom and plenty."

A second useful contribution is provided by Scott Foresman's Living World History (60), which establishes a contrast between "some social critics in the West" who argue that "continued industrialization" does not "necessarily mean progress," and "leaders in the developing countries" who see "industrialization and modernization as offering the best hope of eliminating crushing poverty." This is a partial insight, since elites in LDCs may also feel threatened by the trends they are here said to favor, but it at least states a problem that other textbooks ignore (or exemplify).

Where LDCs are the topic, expression of hostility to economic development is understandably rare. Even the urgings to use "appropriate technology" and promote decentralized or de-urbanized development--common in the adult literature--are not frequent. Nor do many textbooks shed tears over the effects on quaint native cultures and pre-industrial landscapes of what Schumpeter called "creative destruction." The student moving through high school is not likely to encounter these themes in the basal textbooks.

By contrast, the theme that development has become very difficult is more common. Usually this is linked to the stresses of rapid population growth. Other texts, like Macmillan's geography (41), contend that "technology transfer" has become much harder than when immigrants to America carried the blueprints for textile machinery in their heads; and that "starting a business is much more difficult and expensive" today as well. This is a highly disputable impression to convey.

Economic development is a formidable subject. In the hands of non-experts (meaning most textbook authors), the result is at best fragmentary insights that distort by what is omitted. For example, there are scarcely any references--favorable or unfavorable--to the roles of multinational manufacturing companies in LDC economies. Since it is not uncommon to find negative statements about rich countries exploiting poor countries' raw materials, this omission probably has less to do with fear of treading on important toes than with not knowing what to say. Interestingly, one of the few texts whose authors are expert says the unexpected: "The problem of imperialism...has taken an unexpected turn....(T)he danger now is as much that the big companies will bypass the backward nations as that they will dominate them." (49)

Few textbooks emulate Draper Kauffman's teacher guide to futures studies in suggesting that it would help poor countries to catch up if the rich ones were willing to stop growing. However, it is common to imply a direct relationship between rich countries consuming less and poor ones consuming more. Other textbooks emphasize foreign aid. The widely-used 1977 edition of HBJ's American history (25) for example, describes the rich-poor "gap" as having reached "crisis proportions," and declares that "the rich, industrial nations would have to carry a major share of the responsibility for alleviating the problems of poverty and hunger in the world." Elsewhere economic development assistance is emphasized. However, the policy dimension of foreign aid is generally neglected. Probably it strikes publishers as more controversial than urging individual abstemiousness. The presentation of policy alternatives, of course, would also require more space.

At a more abstract level, however, there is treatment of pro- and anti-growth positions. Scott Foresman's economics text (58) spells out rationales for both in a well-organized section. Laidlaw's (39) uses a similar approach. The pro-growth position is stated well:

> In the United States, most people have grown up with the idea that things will be even better in the future. For these beliefs to be fulfilled, our economy must continue to grow....A healthy economy in the United States often can provide the funds for greater aid to developing countries. Aid in the form of money, capital goods, and technical knowledge should help the economies of these developing countries to grow. Healthy economies in the Third World countries, in turn, could help the United States.

This text also usefully differentiates the argument that further growth is not possible from the argument that it is not desirable. However, having implied that these are minority positions, it shifts gears--"Even though many Americans have doubts, some Americans still believe that further economic growth is possible and needed."--and then it shifts gears again: "Most economists agree that economic growth is needed if we want to raise America's standard of living....(T)here is some concern that not enough is being spent to keep up this growth." (Emphasis added)

An American history from this publisher (38a) is ambivalent about growth, which is described as a "mixed blessing" after its unusual allusion to Japan and other countries that are growing faster than the United States. As in several texts quoted elsewhere, advantages of slower growth are touted--reducing pollution, conserving resources for future generations--but the student will be left in some confusion as to whether this is a prediction or a choice. The summary does not resolve the point:

> The United States is a post-industrial country. But it is not certain that the economy will keep growing. If it does, a major question in the future will be whether continued growth will be good for the country.

This is a legitimate position. Whether it should be stated in a basal textbook in lonely splendor is another question. These authors might have done better to follow an economics text (20) which prefaces its anti-growth message with: "Warning: This will not be a 'balanced' view of life in the United States today."

We noted previously that an optimistic ending appeared to be grafted onto Houghton-Mifflin's economics text (34). This is not an isolated instance. Merrill's economic text (46), having previously deemed it a "serious question" whether global disaster can be averted, concludes incongruously, "And most economists believe that future growth potential is almost unlimited."

6. The "Package"*

a. Introduction

Thirty-two textbooks, considerably more than half of those that mention any LTG topic, were classified as treating these topics as a package. This is scarcely a surprising finding. The topics separately discussed in previous sections are viewed as "critical issues" largely because of their mutually reinforcing effects. In this section, we will discuss the varied styles of presentation and some of the themes and messages that are communicated.

b. How the Package is Presented

(1) Forms of LTG Ideology

As a point of reference, it is useful to summarize the limits-to-growth ideology. This rests on the elementary principle that no kind of growth can continue forever, and that any given growth rate entails ever-shorter doubling times. Thus, averting catastrophic collapse of a rapidly growing "system" may not be possible--there may be too little time--unless action is taken long before the physical limits to growth are reached.

LTG ideology construes modern global trends in this frame of reference. A summary presentation of this ideology and its impact appears in only one textbook we reviewed, Merrill's Economics (46):

> In 1973, a prestigious international group of scholars and business people called the Club of Rome startled the world with a doomsday statement. They warned that global catastrophe would result if nations continued at a steady rate of growth with disregard for levels of population, resources, and pollution....The Club of Rome's theory shook the world....Much discussion ensued on how to bring about zero population growth and zero economic growth. However, the view of the future with little or no economic growth was a dismal one....Slowly, a new and more helpful consensus has evolved around the concept of "organic growth."...The benefits of science and technology are to be used to improve the quality of life, but to avoid pollution and conserve resources that can never be renewed. While this seems a happy prospect, there remains a serious question as to whether it can become reality.

Published in the same year, 1981, Prentice-Hall's The Economic Problem (49) teaches LTG ideology in a more sophisticated form. As noted earlier, this text uniquely emphasizes that the long-range outlook for world population growth, per se, is favorable. We excerpt the authors' position on why this provides little reason for cheer:

---

*This section includes many quotations used earlier.

> Our standard of living can be maintained, at least for a while. But no one any longer takes for granted that we can continue to race into the future on the path of exponential, self-fueling growth....(T)he energy situation arises from the barriers that all such systems must sooner or later face: Either they will outpace the ability of their resources to sustain their growth or they will bump into barriers of pollution or ecological danger generated by their mushrooming growth. The energy squeeze is the first serious brush that our expanding industrial system has encountered with these constraints of nature. Even if enormous new energy sources are discovered, it is unlikely that our growth trajectory could be sustained more than another generation or two. Our industrial processes are already threatening the environment....Perhaps the most serious threat is the "greenhouse effect" that results from the continuously growing addition of carbon dioxide to the atmosphere as a by-product of energy use....The National Academy of Sciences has warned that we must throttle back on combustion if we are not to disturb the earth's climate.*

Earlier, these authors observe:

> If we handle this transition poorly, we could be severely penalized by a substantial fall in our living standards. If we handle it intelligently, the fall will be less severe, perhaps hardly noticeable at all.

LTG ideology is one response to the fact that the past two hundred years have seen extraordinary growth of the human population and of industrialization. Starting in a few countries, both developments have become global in scale. Although not all countries are "developing," dozens in the Third World now have significant export earnings from manufactures other than crudely processed raw materials. Some that do not, can; they have thus far preferred to emphasize import substitution rather than competing in world markets.

In its most credible form, LTG ideology emphasizes this trend, which was scarcely imaginable before World War II and has accelerated dramatically. The scenario is one of economic growth followed by collapse, resulting either from exhaustion of economically usable mineral stocks or from pollution. This scenario strikes us as implausibly mechanistic and tunnel-visioned. The "superindustrial" era carries a potential for disasters--perhaps of as yet unrecognized kinds--but the image of humanity blindly hurtling to (and beyond) the brink of irreparable disaster is not, in our judgment, the probable future.

---

*A point of fact seems worth making here. The "greenhouse effect" does not result from "combustion" so much as from the combustion of fossil fuels, which increases carbon dioxide in the air. If the effect is indeed "the most serious threat" we face, a concerted effort to solve the problems of nuclear power generation, which is clean in this respect, would be the most practicable, major, immediate step to reduce the heat threat. No textbook that raises the specter of the greenhouse effect makes this point.

To the extent that Third World industrialization is something to fear, the reason that deserves more emphasis is the competitive challenge to the advanced industrial countries, not the ecological threat.

A striking peculiarity of the textbooks, however, is that they do not deal with either threat. There are numerous platitudes about the Third World's development needs, and numerous anxious questions about the adequacy of resources to meet them. A few textbooks allude ominously to the threat of violence suggested by the teeming numbers and frustrated expectations of the world's poor. One text (38a) uses U.N. rhetoric of an emerging new world order, referring positively to the Third World as rich in people and resources. But the overwhelmingly dominant theme in global generalizations is a strange marriage between LTG ideology and a much older world view. The student is encouraged to visualize the other side of the "gap" as populated by an inert mass of helpless sufferers, passive victims of a population explosion "we" caused by introducing Western medicine, and of other developments they are incapable of understanding, correcting, or turning to advantage. Although only one textbook depicts the gap in racial terms, in a great many the White Man's Burden lives on--"we" are responsible for "them." One geography even entitles its last chapter, "Supporting the World's Developing Nations."

From the textbooks' treatment of population-food trends, the student will learn to objectify the Third World as Malthusian pawns, mindless breeders, and to condemn "us" for opening this Pandora's box. Nowhere are the extraordinary gains in life expectancy celebrated; rarely are they acknowledged as an achievement (balanced by harm and threat); even more rarely is a rational basis for high fertility in these countries suggested. From the treatment of the world economy, the student will obtain an outdated, static stereotype: developed countries trade with each other; they trade with the Third World (OPEC excepted) on advantageous terms; developing countries rarely trade with each other. From the treatment of resource-depletion and pollution, it will be clearly conveyed that it is "affluent people like the Americans" who threaten to make the earth "unlivable."

(2) Styles of Presentation

In the nature of the textbooks' orientation, the LTG "package" is often translated into American terms:

> As in other regions of the world, the population of the United States is increasing rapidly....As our population continues to grow, we will have to use our great resources more wisely. Up to now we have been wasteful....We have carelessly dumped wastes into our streams and rivers....We also may not have enough fuel for our machines. Will we be able to keep a high standard of living as our population grows so rapidly? (18)

> Strong regulations protecting our national resources and controlling pollution may be needed to avert a possible ecological disaster. (28)

> Those not so hopeful [as the Catholic Church, Mormons, and Orthodox Jews are] about...increasing the food supply...believe that if strong birth control steps are not taken, death rates will increase....They even believe that the standard of living in the United States and other developed countries will drop...because raw materials are being used up. Resources...will become polluted or run out. More and more people are talking about a zero population growth. (6)

> The United States may be one of the last countries in the world to have a severe shortage of food. But already in some parts of this country there are problems in the supply of fresh, pure water. The air is also polluted in many of our cities. Some of our rivers are little better than open sewers. In other ways, too, shortages have begun to appear....In the more crowded countries these shortages have been present much longer than in the United States. A widespread food crisis may not happen this year, or next. But in our lifetime there may be severe shortages of food, of fuel, of water, of everything that we use up in our daily lives. (66)

> The challenge for our country in the years ahead will be to see how carefully resources can be conserved and pollution can be cut down. The future quality of life in the United States depends partly on how the environment is treated today. (38)

Some textbooks present the package by means of bewildered strings of rhetorical questions. Here is the most compact example (29):

> Will substitutes be found for many of our rapidly dwindling natural resources--valuable ores and coal, for instance? Are the possibilities of developing food sources limitless? Can people adjust to living in crowded quarters without having their health impaired? Will we continue to poison the environment as industry and urban development proceed? Or will we be able to find ways to preserve the environment without giving up our technological development? These are some of the questions we must answer soon. Everyone in the world shares the same environment.

Much more rarely, the perceived magnitude of the threat is directly related to the disparity of condition between rich and poor. One economics text notes of the United States that "a rapidly growing population is making increasing demands on available forest, mineral, land, and water resources" (34):

> ...If people in many other lands begin to produce and consume at the same rate as people in the United States, the result could

> be greater depletion of important natural resources and serious ecological problems....Industries, governments, and individuals continue to pollute as though they believed living space to be unlimited and the environment indestructible. The long-range economic and social costs of this neglect are impossible to predict....The future of civilization, and even of humanity itself, may depend on how successfully developing nations achieve economic maturity.

In other texts, such as Macmillan's geography and HBJ's civics book, the technique is to deal sequentially with the LTG topics (and perhaps a few others) at some length, with or without a summary statement. Macmillan's chapter is called "Cultures in Transition," subdividing the challenges that face the "developing" and "developed" countries. HBJ's is called "Saving the Earth."

More commonly, package treatment of the global outlook occurs as a cursory touching-of-bases:

> Pollution of the oceans is a global problem, as is the danger of nuclear war. Another global problem is scarce resources. Some people estimate that many of the world's resources, especially oil, will run out in the next hundred years....(M)any people worry about the world's population growth. One estimate is that in the latter half of this century, the world's population will double every 30 years. If this prediction comes true, there might not be enough food and natural resources to meet the needs of a growing population. (48)

> In the past 20 years,...the World Health Organization has taught the people how to control diseases. As a result the death rate has decreased. Feeding all of the world's people has become a serious problem....Never before in history have the Earth's resources been used as quickly as at present. Many persons are beginning to wonder if the world can support the people that may soon be living on it. (4)

Both of these books use the citing of opinion to distance themselves from the point they are making, without really attenuating its message. Other texts balance "some people" with "other people." For example, Laidlaw's economics text's characterization of the pro-growth position, quoted in the previous section, is accompanied by the sketch of LTG ideology excerpted here:

> In recent years, questions have arisen about the growth of the American economy. A number of Americans have voiced doubts that rapid economic growth is desirable. They state that rapid industrialization has almost used up our scarce natural resources....(I)ndustry has polluted the land, the air, the rivers, and the oceans. They also state that economic growth has helped little in solving such problems as poverty....They accept that we do have many more

> goods and services....Even so, they feel that the quality of life is getting worse.
>
> Others question whether [further economic growth] is possible....(I)f industry continues to use these resources at its present rate, the resources will soon be exhausted. Also, the earth is able to absorb only so much of the waste products of industry. Like a sponge soaking up water, the earth will soon reach its saturation level.

(3) Are There Trends?

Although some textbooks give the impression of mechanically touching bases, many convey a sense of urgency on the part of the authors. They want to smash the complacency of the frivolous, well-fed, American schoolchild. Our review was not designed to identify trends in this respect, being almost entirely a cross-section of textbooks published in the past five years. No trend is discernible in this period. Some of the most heavy-handed efforts to shock the young reader bear 1982 and 1983 copyright dates, while others appeared before 1980.

Because we were told that HBJ's The Rise of the American Nation is the most widely used American history,* we did, however, compare the 1982 and 1977 editions of this textbook. For whatever reasons, this particular text is tamer in the newest edition. The overheated treatment of pollution has been shortened and cooled. (The purely domestic reference to development's effect on "irreplaceable" farmland has, however, been lengthened.) An allusion to Americans facing the "challenge...of redefining their concept of the good life" has disappeared. Carelessly, what was previously the first of several LTG summary references is still labeled "first" (and still misstated) although the others have been dropped. The "flag-waving" ending has been expanded.

As noted, our review does not support the conclusion that this is a "trend." Textbooks may be becoming more "conservative," but there is much evidence that LTG ideology's appeal does not fit on a conventional liberal-conservative spectrum, although some formulations of its policy implications do. Some common accompaniments of this ideology--a pessimistic view of the future, nostalgia for earlier lifestyles, resentment of the common man's gains, disdain for "mass culture," and distaste for the Horatio Alger conception of "success," among others--have had conservative connotations historically. So, for that matter, has the technique of scaring and shaming children into being good. Indeed, the discomfiture of liberal educators with this technique provides the best basis for suspecting that the textbook epidemic of pessimism about the future may be peaking.

---

*As noted earlier, statistics on utilization are not available.

We emphasize that this would not, in itself, hold any promise of qualitative improvement in the treatment of global and other "critical issues." Moreover, the rising star of scare instruction on nuclear war indicates that any trend toward downplaying the LTG package may simply reflect a shift of indoctrinational priorities such as occurred in the mid-1970s, when the LTG topics began to displace the U.S. social issues.

As it happens, two of the oldest textbooks we reviewed exemplify the extremes as well as any other two. Rand-McNally's geography, published in 1976, has been quoted here several times as (to us) an attractive model of brief but substantive and cautiously optimistic coverage of some LTG issues. By contrast, Allyn & Bacon's The Pageant of American History, published in 1975 and now possibly being allowed to go out of print, is intent on translating the LTG message into terms that will have a disturbing personal impact on the student. This book makes a general statement: "The earth's resources may have reached their limit to provide for human beings. The destruction of our environment, moreover, is closely related to the population problem." This is used as lead-in to the following quotation:*

> 'About every four seconds, the United States census clock ticks off a new American. In his expected 70 years of life, he will contribute to the Gross National Product by consuming 50 tons of food, 28 tons of iron and steel, 1,200 barrels of petroleum products, a ton and a half of fiber and 4,500 cubic feet of wood and paper. All of this material will pass through or around the new American, eventually winding up as waste--100 tons of it, wafting on the breeze, bobbing in mid-current, or along with his 10,000 "no deposit, no return" bottles, ploughed into some hapless marsh, there to pollute both the land and the sea....'

The section concludes by inquiring: "Do we need to be destroyed before we can be reborn?"

c. Some Themes and Messages

(1) Nostalgia

Perhaps the strangest representation of LTG issues as a package is the dirge that appears in a postscript to Ginn's otherwise level-headed A History of the United States (14), from which we here excerpt at length:

> Who would have guessed that, within less than 200 years, a trackless, half-mapped continent could be crisscrossed by superhighways, defaced by billboards and tin cans? Who would have guessed that Americans would perfect horseless carriages to go a hundred miles

*The original source is J.C. Mitchell and C.L. Stallings, eds., Ecotactics: The Sierra Club Handbook for Environmental Activists (New York: Pocket Books, 1970).

> an hour--and yet be stuck in traffic jams...? Or that ten times as many would be killed by these horseless carriages every year as were killed in all the battles of the American Revolution?
>
> Who would have imagined that the fresh air of a New World would begin to be smoke-filled? Or that the sparkling waters of lakes and rivers would become so darkened and dirtied by factory sewage that even the fish found them unlivable...?
>
> Who would have believed that the wonderful American silences...would be shattered by the roar of speeding jets, lumbering trucks, and ear-jarring motorcycles? Who would have believed that a continent, once frightening by its emptiness, would now terrify people by crowding them together?
>
> ...Who would have foreseen that a nation rich in natural resources--in coal, oil, uranium, natural gas, and flowing water--would fear that it might be crippled by a lack of enough energy to run its cars and factories and to warm its houses?

Or, as another textbook puts it: "Industrial America is certainly richer than colonial America. Are we sure that it is also better and happier?" (20)

(2) Break With the Past

Nostalgia for the pre-industrial (or, occasionally the pre-agricultural) past echoes an old tradition that has historically been associated with most of the attitudinal and behavioral preaching that is conveyed in the limits-to-growth context today. However, the cutting edge of the LTG theory is the claim of novelty. The traditional theme of learning from the decline and fall of earlier civilizations is conspicuous by its absence where the LTG topics are treated as a package. Several textbooks allude to deforestation in the past (China, the cedars of Lebanon), and others to the background of the Malthusian theory. However, the central theme is that "Spaceship Earth" has only in our time become imperiled by the activities of its human passengers. Whether a textbook has a global or a U.S. frame of reference, the theme of a radical break with the past is common as a prediction, a description of the present, and a psychological-cultural-behavioral necessity.

Here are some of the forms of this message, including examples that were cited for other purposes in earlier sections of the report:

> Today, perhaps for the first time in 200 years, the concept that "all change is progress" is being seriously questioned. (7)
>
> As never before in the nation's history, men and women in every walk of life faced the urgent need to reexamine the nation's goals as well as their own personal objectives. (24)
>
> The Western Hemisphere may not prosper in the future as it has in the past 200 years. (9)

> Today the world faces new problems. Pollution, the population explosion, the increasing crowding of our cities, and the increasing shortage of resources--chiefly energy fuels--are now challenging all of humanity. (6)

> In your opinion, can development keep up with population growth? Explain. How do you think the needs of increased world population can be satisfied? Do you see any changes in life style coming? If so, what are they? (47)

> A new social awareness may mean an end to wasteful consumption and greater attention to conservation. // Why will it be necessary to alter United States society as the future approaches? (38a)

> Ecological awareness in turn began to create a new set of values. These values cast doubt on hitherto unexamined American assumptions such as that technological progress is automatically good, or that economic growth...should be the major goal of the economy. //Having become accustomed to abundance and affluence the United States now seemed to face an age of diminished resources and economic uncertainties. (42)

> Americans would have to change their whole style of life before they could save the land and its resources. // Economists warned that shortages and high prices for other raw materials were only beginning. Some looked to the years ahead with gloom. (54)

> ...According to this theory, we must learn to accept limits to growth. Instead of living by such mottos as "bigger is better," we might consider, as some suggest, that "less is more" and that "small is beautiful." (41)

> ...the greatest challenge the human race has yet faced. (66)

> People's past exploitation of natural resources and treatment of the environment are directly related to the present availability of those resources and the creation of survival-threatening conditions. (65)

(3) Fragility, Interdependency, and "Who Should Decide?"

We have previously quoted several examples of the theme of ecological fragility. This is often related to the photographs of earth from space. Oddly, no textbook mentions how profoundly the interpretation of these beautiful pictures was influenced by the shocking pictures of Mars and Venus--"barren as the moon." Fragility of earth's biosphere does not follow logically from the stark visual evidence of lifelessness elsewhere--no more than having a dread disease follows from reading about the symptoms in Physicians Desk Reference. Nevertheless, those photographs (invalidating much of science fiction) are

comparable to the Copernican revolution in immediate impact. Textbook writers would have somewhat different attitudes today if Mars had been found to be covered with lichens or Venus slithering with lizards. Thirty-one textbooks mention catastrophic possibilities for the earth's future. One wonders how many did so a dozen years ago.

As earlier sections have indicated, the fragility theme--"the delicate balance that exists in nature and how easily this balance can be upset"--is usually subordinated to emphasis on the magnitude and accelerating growth of human impact on the environment. The usual image, in another text's words, is "a rundown earth with a runaway population"; the usual question: how much more damage can the planet take? "The earth," Macmillan's geography notes, "...has built-in controls which help regulate heat. But what happens when human beings interfere with these controls?"

Also influential is Garrett Hardin's ecology-based aphorism that it is not possible to change only one thing. The idea that seemingly minor or innocuous changes can have major unanticipated effects, environmental or other, is most often introduced in discussion of technological innovation. Where this connection is made, the effects are assumed to be harmful. The remarkable constructive roles of "synergisms and serendipities" in technological history go unmentioned. Likewise, most textbooks that devote space to the "green revolution" as an example of applying science to the world's problems emphasize its undesirable side-effects as if these were fixed qualities.

Of course, changes that are urged in the break-with-the-past frame of reference are exempted from caveats about unanticipated effects. For a simple example, an American history that discusses "food for the hungry" states flatly of the three-fourths of U.S. grain that is fed to livestock: "Much of it could be processed into grain for human consumption. If this were done, the world food supply would be increased by at least 30 percent" (54).

Only one textbook mentions the possibility that slower U.S. population growth could carry any economic costs, and the changes in values and behavior that are touted in so many texts are nowhere subjected to critical review. The useful concept of social limits to growth has not yet made its way into the textbooks either as a set of transitional hazards or as an observed evolutionary development (occurring independently of physical "limits"). Instead, the textbooks that deal in these matters encourage students to view changes in values and lifestyles as direct, willed responses to new global conditions and new knowledge of their catastrophic potential. This is not so dissimilar from the narrow, technological problem-solving paradigm that the same textbook may elsewhere deplore.

Interdependency among the world's peoples and within national economies is connected to the theme of environmental fragility by only one textbook, Macmillan's geography, which notes:

> ...a strange fact about modern societies. Our industry, technology and interconnected system give us great power. At the same time, they make us vulnerable and fragile....(W)e are no longer self-sufficient. We depend on all other people and places for the things we need.

The examples the text cites range from a speech in Washington causing the price of gold to rise in London to the (alleged) global effects of clearing the Amazon Forest on the supply of oxygen "for all living things everywhere." These are also the authors who allude to biochemical research possibly creating "viruses or bacteria for which no cure is known," going on to point out: "In the interconnected world of today a disease can spread as fast as a jet aircraft can carry passengers. After the outbreak...,it can easily become a worldwide epidemic, called a pandemic."

This type of passage is common, but the Macmillan text's expression of anxiety about the fundamental characteristic of modern societies is unique. Syrupy or moralistic banalities about interdependency among the world's peoples are the norm. Globe's world history is typical, concluding with a sweetness-and-light chapter, "A World of Connections Between People," that transforms Macmillan's jet plane from the spreader of disease into the instrument of cultural exchange.

Yet anxieties and unresolved conflicts on this score are a central implied theme. Students (and teachers) know how they are <u>supposed</u> to feel about the entwined lives of "us" and "them," but it strains credulity to imagine that this is the real effect of depicting the world in terms of the rich few who are gobbling up the resources and fouling the nest, and the abject poor whose numbers are shooting off the top of the J-curve graph. "We" may be the cause of it all, but most students seem sure to conclude that "they" are a threat to "us."

Remember that our impression is a caricature. Some textbooks present this picture as a whole, but our sense of its prevalence is also influenced by the combined effect of those that deal entirely or almost entirely with one side of the "widening gap." This is legitimate for answering the probabilistic, longitudinal question: what will students learn from a random selection of textbooks as they move through high school? However, the caricature loses legitimacy to the extent that other things said in the textbooks counteract what is said on the LTG topics. A geography that engages in insulting, frightening, factually wrong generalizations about the Third World may or may not also have a country-by-country coverage that may--or may not--mitigate the impact of the generalizations. A textbook's treatment of LTG topics may be accompanied by a future-oriented section on technology (e.g., "Space--The New Frontier"), which may convey a sense of excitement or reinforce a sense of fear. Some textbooks have bizarre juxtapositions of negative hype about the world's future with inserts on career education. We don't know how students react to this, or to textbooks that move directly from environmental-catastrophe allusions to chapters

on the arts. Other contextual influences--notably, sections on the threat of nuclear war--clearly reinforce the theme of vulnerability.

However, we can speak confidently about what the dominant world view prevents the textbooks from addressing. They have painted themselves into a corner where they do not present the facts of an increasingly competitive world economy, and cannot help the teacher who wants to prepare students to compete in this future.* In the White Man's Burden world, this problem does not arise. In the world of LTG ideology, either "we" are supposed to decline gracefully or the whole question of competitive advantage falls in the category of rearranging the deck chairs on the Titanic.

Second, the conflicts resulting from grafting the LTG world view onto older pedagogical stock are not addressed. Most glaringly, the break-with-the-past theme has been carried over from the 1960s with total heedlessness to the difference it makes when the context is changed to a global perspective that belittles the individual; when the outlook is dystopian rather than utopian; and when our socioeconomic institutions and traditions are presented, not as something that "forerunner" youth are ready to transcend (while taking continued economic progress for granted) but as, verily, the engines of the world's destruction.

Some of the textbook writers are themselves graduates of the youth culture that had the rug pulled from under. Within the constraints of the medium, they express their resentments and anxieties. To repeat a quotation from a textbook that says nothing else on LTG topics:

> Raised on the gospel of progress, few wanted to be told that there were limits to the nation's capacities, powers, and natural resources; that they must lower their expectations and aspirations; that they would need to exercise self-discipline and be prepared to make sacrifices. (50)

Anxieties that lurk in the background express the bleak corollary to Hardin's aphorism: solving problems creates worse problems; nothing works. Other anxieties fuel the yearning to retreat to a simpler way of life, and to recover self-sufficiency. Still others pertain to governance. For all the prating about what <u>you</u> can do, there is an undertheme of yearning for someone up there to "decide." Like other expression of authorial insecurity, this typically appears as unanswered questions; e.g., "Who in a given country should decide whether to use technological improvements?" (65); "Who decides such questions as: How fast should new inventions be developed? How should scarce resources be allocated? How fast should new inventions be mass-produced?" (7)

---

*Robert Hanvey, a well-known educational writer specializing in global studies has recently emphasized this unmet need.

Perhaps the anxieties about modern societies that the Macmillan geography at least brings into the open are allayed in unreviewed parts of the textbooks. However, in (for example) the American histories' coverage of the period since World War II, we found no effort to communicate to students how modern societies function, and how remarkably well they function even when we think of them as in crisis. Certainly the theme of resiliency and adaptability receives only the emptiest lip-service in most of the textbooks' treatment of the topics covered by our review. For that matter, only one textbook reminded students that fear of new technologies is not a modern invention (14).

III. ENDINGS

How do textbooks end? Some stop when they run out of countries or arrive at the present. Magruder's American Government (5) ends with a hodgepodge of late-breaking developments that is worth mentioning only because it is accompanied by a purported quotation from Diogenes: "Bury me on my face; for in a little while everything will be turned upside down."

Some authors who have presented a dark picture of world trends choose to end with sections on the space frontier or the arts. (Or perhaps this is the editor's decision.) Many end on an upbeat note that sometimes seems written for protective purposes and may be flatly contradicted by the text. These are often flag-waving endings, of which two examples will suffice:

> Therefore, according to our past, the United States most assuredly will have continued prosperity in the future. (46)

> The American people have solved many immense problems during the course of their nation's history. They need only the will and the commitment to meet the new challenges of the future. (24)

Most interesting are the "last words" that have been thoughtfully chosen. We have previously mentioned several geographies' last-chapter titles. One American history laconically labels its last unit, "Crisis." A Laidlaw's history that alone discusses world government (38a) concludes its text with a summary that ends with a reference to "the formation of a new world political order," followed by a "case study" on the arms race. The long quotation we excerpted under the heading, "Nostalgia," is the end of another history, with some unquoted flag-waving.

A civics text ends with a list of ten steps "you and your classmates can take now to help conserve America's resources" (19). The tenth is: "Get the facts about population growth. Start thinking about what you can do to help keep the world a fit place for people." At least two texts end on a deliberately ambivalent note. The example quoted here is a world history (23):

> Many new developments offered both threats and promises. The "green revolution" promised to help relieve the threat of widespread famine; its need for chemical fertilizer threatened the environment.

The most striking ending is provided by Houghton-Mifflin's Unfinished Journey (37). This is one of only four textbooks that refer to pessimism or malaise as itself an element in today's trends, and it is the only one that goes beyond reportage. Its conclusion starts with an unreferenced quotation from Peter Gay, beginning, "The world has not turned out the way the philosophes wished and half-expected it would"; and ending, "We have known horrors, and may know horrors, that the men of the Enlightenment did not see in their nightmares."

The author comments:

> But the present is also a time of hope and promise. Humanity possesses the intellectual and material resources to respond creatively to the challenges of the times. A failure of nerve, a loss of will, a listlessness of spirit, a sense of futility can destroy civilization. This is one of the lessons of history, perhaps the principal one.

For lack of a better, we will make this our last word, too.

INDEX OF REFERENCES TO SPECIFIC TEXTBOOKS
IN SECTIONS II (B-2 THROUGH B-6) AND III

TEXTBOOK NUMBER*	LOCATION OF REFERENCES	TEXTBOOK NUMBER*	LOCATION OF REFERENCES
1.	B4	35.	B2, B4, B5
2.	No citations	36.	No citations
3.	B2, B3	37.	B5, III
4.	B2, B6	38.	B3, B6
5.	B3, III	38a.	B2, B3, B5, B6, III
6.	B2, B4, B6	39.	B3, B5, B6
7.	B3, B6	40.	No LTG topics
8.	B2, B5	41.	B2, B3, B4, B5, B6
9.	B3, B6	42	B3, B4, B6
10.	B2, B3, B4, B5	43.	B2, B3, B4, B5
11.	B2, B3, B5	44.	No LTG topics
12.	No citations	45.	No LTG topics
13.	B5	46.	B4, B5, B6, III
14.	B2, B5, B6, III	47.	B2, B4, B5, B6
15.	B5	48.	B2, B3, B6
16.	B4	49.	B2, B5, B6
17.	B2	50.	B3, B6
18.	B2, B5, B6	51.	B3, B4
19.	B2, B3, B4, B6, III	52.	B2, B4, B5
20.	B4, B5, B6	53.	B2, B3, B6
21.	Not in review	54.	B3, B4, B6
22.	Not in review	55.	B5
23.	III	56.	Not in review
24.	B2, B4, B6, III	57.	Not in review
25.	B2, B4, B5, B6	58.	B4, B5
26.	B3	59.	B2, B4
27	B4	60.	B4, B5
28.	B4, B6, III	61.	B2, B4, B5
29.	B2, B6	62.	B2, B5
30.	No citations	63.	B3
31.	No LTG topics	64.	B3
32.	B4	64a.	Not in review
33.	B2	65.	B2, B3, B4, B5, B6
34.	B2, B4, B5, B6	66.	B2, B3, B4, B5, B6

*See TextBook List for names of textbooks identified by the above numbers.

TEXTBOOKS INCLUDED IN THE REVIEW

1. Addison-Wesley, An American History, 1981 (Rebecca Brooks Gruver)
2. Addison-Wesley, Essentials of Economics and Free Enterprise, 1982 (Richard M. Hodgetts and Terry L. Smart)
3. Addison-Wesley, Our Economy: How It Works, 1980 (Elmer U. Clawson, Director)
4. Allyn & Bacon, The Eastern Hemisphere, 1983 (Harold D. Drummond, James W. Hughes)
5. Allyn & Bacon, Magruder's American Government, 1982 (William A. McClenaghan, author of revision)
6. Allyn & Bacon, Our World and Its Peoples, 1981 (Edward R. Kolevzon, John A. Heine)
7. Allyn & Bacon, The Pageant of American History, 1975 (Gerald Leinwand)
8. Allyn & Bacon, The Pageant of World History, 1983 (Gerald Leinwand)
9. Allyn & Bacon, The Western Hemisphere, 1983 (Harold D. Drummond, James W. Hughes)
10. Follett, Our World Today, 1983 (Phillip Bacon, James B. Kracht)
11. Follett, World Geography, 1983 (Herbert H. Gross)
12. Ginn, America's Heritage, 1982 (Margaret Stimmann Branson)
13. Ginn, Exploring World Cultures, 1981 (Esko E. Newhill, Umberto La Paglia)
14. Ginn, A History of the United States, 1981 (Daniel J. Boorstin, Brooks Mather Kelly, with Ruth Frankel Boorstin)
15. Ginn, Our Common Heritage: A World History, 1981 (Daniel Roselle)
16. Globe, Economics and the American Free-Enterprise System, 1983 (Jack Abramowitz, Roy Adkins, J.H. Rogers)
17. Globe, Exploring World History, 1983 (Sol Holt, John R. O'Connor)
18. Globe, The New Exploring a Changing World, 1980 (Melvin Schwartz, John O'Connor)
19. Harcourt Brace Jovanovich, American Civics, 1979 (William H. Hartley, William S. Vincent)

20. Harcourt Brace Jovanovich, The Development of American Economic Life (paperback), 1978 (Robert L. Heilbroner, with Aaron Singer)

21. Harcourt Brace Jovanovich, Free Enterprise in America (paperback), 1977 (Andrew Hacker)*

22. Harcourt Brace Jovanovich, The Impact of the Industrial Revolution (paperback), 1978 (Nicholas B. Fessenden)*

23. Harcourt Brace Jovanovich, Men and Nations: A World History, 1975 (Anatole G. Mazour, John M. Peoples)

24. Harcourt Brace Jovanovich, Rise of the American Nation, 1982 (Lewis Paul Todd, Merle Curti)

25. _____, 1977 Edition (same authors)

26. Harper & Row, Faces of America: A History of the United States, 1982 (R.M. Smith, E.D. Levy, M.H. Brown)

27. Harper & Row, Modern American History: The Search for Identity, 1981 (John Edward Wiltz)

28. Harper & Row, A People and a Nation, 1981 (Clarence L. Ver Steeg, Richard Hofstadter)

29. Holt, Rinehart and Winston, World Geography Today, 1980 (Saul Israel, Douglas L. Johnson, Denis Wood)

30. Holt, Rinehart and Winston, People and Our World: A Study of World History, 1981 (Allan O. Kownslar, Terry L. Smart)

31. Holt, Rinehart and Winston, People, Places, and Change, An Introduction to Geography, History, and Cultures, 1981 (Leonard Berry, Richard B. Ford, Norman Carls)

32. Holt, Rinehart and Winston, The American Way, 1979 (Nancy W. Bauer)

33. Holt, Rinehart and Winston, People and Our Country, 1982 (Norman K. Risjord, Terry L. Haywoode)

34. Houghton Mifflin, The American Economy: Analysis Issues Principles, 1983 (Roy J. Sampson, Ira Marienhoff)

35. Houghton Mifflin, Geography, 1982 (Arthur Getis, Judith M. Getis)

36. Houghton Mifflin, This is America's Story, 1983 (H.B. Wilder, R.P. Ludlum, H. McC. Brown)

---

*Statistical information on the review does not include these books.

37. Houghton Mifflin, Unfinished Journey, 1983 (Marvin Perry, et al.)

38. Laidlaw, The Challenge of Freedom, 1982 (R. Sobel, R. LaRaus, L.A. De Leon, H.P. Morris)

38a. Laidlaw, A History of Our American Republic, 1981 (Glenn M. Linden, et al.)

39. Laidlaw, Free Enterprise--The American Economic System, 1981 (Robert F. Smith, Michael W. Watts, Vivian D. Hogan)

40. Lippincott, The Human Expression: A History of Peoples and Their Cultures, 1977 (Paul Thomas Welty)

41. Macmillan, Global Geography, 1981 ((Preston E. James, Nelda Davis)

42. Macmillan, History of a Free People, 1981 (Henry W. Bragdon, Samuel P. McCutchen)

43. Macmillan, Modern Times (paperback), 1983 (Carlton J.H. Hayes, Margareta Faissler, Judith Walsh)

44. McGraw Hill, American Government, 1980 (Allan O. Kownslar and Terry L. Smart)

45. McGraw Hill, Civics, Citizens and Society, 1980 (Allan O. Kownslar and Terry L. Smart)

46. Merrill, Economics: Principles and Practices, 1981 (James E. Brown, Harold A. Wolf)

47. Merrill, Global Insights: People and Cultures, 1980 (Mounir A. Farah, et al.)

48. Prentice-Hall, American Government: Comparing Political Experiences, 1979 (Judith Gillespie, Stuart Lazarus)

49. Prentice-Hall, The Economic Problem, 1981 (Robert L. Heilbroner, Lester C. Thurow)

50. Prentice-Hall, The United States: Combined Edition, 1982 (Winthrop D. Jordan, et al.)

51. Prentice-Hall, The United States: A History of the Republic, 1981 (James West Davidson, Mark H. Lytle)

52. Prentice-Hall, World History: Patterns of Civilization, 1983 (Burton F. Beers)

53. Rand McNally (distributed by Houghton Mifflin), Geography and World Affairs, 1976 (Stephen B. Jones, Marion Fisher Murphy)

54. Rand McNally, The Promise of Democracy: The Grand Experiment, 1978 (Henry F. Graff, Paul Bohannan)

55. Scott, Foresman, America! America!, 1982 (L.J. Buggey, G.A. Danzer, C.L. Mitsakos, C.F. Risinger)

56. Scott, Foresman, The American Dream (readings), 1980 (Lew Smith)*

57. Scott, Foresman, The Developing World: Poverty, Growth and Rising Expectations (paperback), 1976 (James D. Calderwood)*

58. Scott, Foresman, Invitation to Economics, 1982 (Lawrence Wolken, Janet Glocker)

59. Scott, Foresman, Land and People: A World Geography, 1982 (Gerald A. Danzer, Albert J. Larson)

60. Scott, Foresman, Living World History, 1982 (T. Walter Wallbank, Arnold Schrier)

61. Scott, Foresman, People on Earth: A World Geography, 1983 (Dorothy W. Drummond, Robert R. Drummond)

62. Scott, Foresman, History and Life: The World and its People, 1982 (T. Walter Wallbank, Arnold Schrier, Donna Maier, Patricia Gutierrez-Smith)

63. Silver Burdett, America and Americans, Vol. II: From Reconstruction to the Present, 1983 (H.J. Bass, G.A. Billias, E.J. Lapansky)

64. Silver Burdett, Our American Heritage, 1983 (H.J. Bass, G.A. Billias, E.J. Lapsansky)

64a. _____, 1979 edition (same authors)*

65. Silver Burdett, This is Our World, 1981 (George H. Kimble)

66. Silver Burdett, World Geography, 1980 (Norman J.G. Pounds)

---

*Statistical information on the review does not include these books.